

INSTRUCTOR'S EDITION

DIANNA L. VAN BLERKOM



Orientation to
**COLLEGE
LEARNING**

Seventh Edition

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Ten Tips for Increasing Your Motivation

- ☐ **SET CHALLENGING BUT REALISTIC GOALS.** You will be more motivated to complete tasks when you feel that they are challenging and yet attainable—within your reach. You may also find that thinking of each task as a step toward achieving your long-term personal or career goals helps keep you motivated.
- ☐ **SET LEARNING GOALS.** Decide what facts, concepts, or ideas you want to learn before beginning to work on a task. Setting learning goals can motivate you to put more effort into a task.
- ☐ **SEE THE VALUE IN THE TASK.** Understanding why you are doing the task—seeing the importance of the task—can motivate you to complete it. You may also find that you have a personal interest or find enjoyment in completing the task.
- ☐ **USE POSITIVE SELF-TALK.** When working on a long or difficult task, you may find that telling yourself that you can do it, why it's important, or that you are almost done can keep you going. Reminding yourself that you are good at math, for example, can help motivate you to complete the difficult problems.
- ☐ **BREAK DOWN TASKS.** Some students have trouble getting motivated to start a task that appears to be long and difficult. By breaking down the task into parts (listing and working on them one at a time), you can make it more manageable. By doing so, you can increase your motivation.
- ☐ **MONITOR YOUR PROGRESS.** Checking off or crossing off each part of the task on your "To Do" list as it is completed can give you a sense of accomplishment, which motivates you even more.
- ☐ **MONITOR YOUR LEARNING.** Answering your own self-test questions, taking end-of-chapter tests, and reciting from memory are just a few ways of monitoring your learning. When you know your time, effort, and study strategies are working to help you learn, you'll be more motivated to continue working.
- ☐ **CREATE INTEREST IN THE TASK.** You can also increase your motivation by making the task more interesting. If you're not interested in the material you're reading, you can create interest in the task by taking notes or generating self-test questions in the margin to make the task more interesting.
- ☐ **GET YOUR MONEY'S WORTH.** Your college education is your key to the future. Deciding that you want to get your money's worth can motivate you to go to class and work hard to be successful in college.
- ☐ **LEARN FROM YOUR MISTAKES.** Learning why you were unable to successfully complete a particular task or achieve a specific goal can also increase your motivation. Knowing what you need to do differently can help you be more motivated to work hard after a "failure."

Orientation to College Learning

7th
EDITION

Dianna L. Van Blerkom

*University of Pittsburgh at Johnstown,
retired*



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You bring love, laughter, and learning
to my life.*

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Instructor Preface

As you're reading this preface, you're probably thinking about how this book can help your students be more successful in college. *Orientation to College Learning, Seventh Edition* takes students on a specific path to motivate them and surround them with the resources they need to set goals and celebrate accomplishments.

First-year college students face many challenges. Are your students entering college right after high school, or are they returning to college to begin a new career? Are some students second-semester or second-year students on probation? Making the transition to college is a challenge for many students. What type of assistance will they need? Some students need help as they move from the high school setting, where their parents and teachers provided them with a great deal of support, to the college setting, where they have to take on new responsibilities. Others are making a transition from the home or workplace to the college setting, where they are often retooling to enter a new career. These students need to meet the social challenges ahead of them. However, they also need to meet the academic challenges that they will face. With *Orientation to College Learning* you can help them meet those challenges.

What makes some students succeed in college and others fail? For many students, time management is the key. So many college students are working or caring for others at the same time that they are earning their degrees. Others are actively involved in sports, clubs, and organizations. Learning to manage their time is a necessity. For others, it's learning how to master course information rather than just memorize it. Many students "cruised" through high school with little effort. Too often, though, they find that the strategies that worked for them before don't work in college. Others have been out of school for a number of years and their skills are rusty. Learning new study strategies that work in college courses is the key to success for many students. During the past few years, I discovered that motivation is also an important factor in college success. Do your students have the motivation to succeed in college? Are they willing to work harder than they did in high school? Are they willing to make changes in the way they manage their time, read their textbooks, take notes in class, and prepare for and take exams? *Orientation to College Learning, Seventh Edition* provides your students with the tools that they need to succeed. Chapters on motivation, goal setting, time management, and concentration will help your students make a successful transition to college. Chapters on text reading, note taking, test preparation, and test taking will help them achieve their academic, personal, and career goals.

Unique Features of the Text

You might expect to find many of the important aspects of this book in any college success, orientation, or learning strategies text. However, there are many features unique to this text:

- Emphasis on strategic learning throughout
- Clear, in-depth explanations for each of the strategies presented
- Flexible, straightforward format and organization that appeals to a variety of instructors—full-time or part-time faculty, counselors, residence life personnel, or anyone in academic assistance
- “A hands-on and experiential” approach that supports the best theories about how students really learn
- Quick Start Strategy Pages that provide an early introduction to many of the essential skills and strategies students need to succeed in college
- Excellent student examples, which help students learn to use effective learning strategies illustrated by their peers
- Excerpts from college textbooks in many disciplines, which help students practice new skills immediately (available in the *Instructor’s Manual* and on the Web site)
- Exercises and activities for immediate practice of the concepts being taught
- Four full textbook chapters for additional practice activities (available on the Web site)
- Tip Blocks (boxed feature) in each chapter for traditional and nontraditional students

Important Aspects of this Book

This text provides a step-by-step approach to college learning. By breaking down each topic into smaller units, students will be able to master each of the steps before moving on to the next. Each chapter includes instruction in the strategy, motivational basis, student examples, exercises for practice, and activities for self-evaluation.

Motivational Basis

The seventh edition of *Orientation to College Learning* has a new focus on motivation. Chapter 1, “Getting Motivated,” focuses on the importance of motivation in college success. Each of the following chapters strengthens the connection between motivation and the strategies that are presented, so that students continue to increase their motivation throughout the course. Some sections stress the need for a high level of motivation to complete tasks that are more difficult or challenging.

Other sections demonstrate how using a particular strategy can actually increase student motivation. The motivation activity in each chapter helps students assess their level of motivation, get in touch with their motivation, or increase their motivation. When students have the motivation to apply what they are learning in all of their courses, they will see an improvement in their grades, have more time for other responsibilities or for leisure activities, feel less stressed about their academic work, feel better about themselves, and perhaps even begin to enjoy learning.

Instruction

Orientation to College Learning provides clear, easy-to-read explanations of how to study and learn. With a flexible, straightforward format and organization that appeals to a variety of instructors—full-time or part-time faculty, counselors, residence life personnel, or anyone in academic assistance—this text works well in college success or learning strategies courses. Strategies for increasing motivation, setting goals, managing time, improving concentration, taking notes, reading and understanding textbooks, and preparing for and taking tests are included. Because every student learns differently, a number of different strategies for taking text notes, preparing “To Do” lists, and preparing study sheets (to name just a few) are described in the text. Students are encouraged to try all of the strategies and then select the ones that work best for them. But learning to study effectively and efficiently requires more than just knowing a new strategy; it also requires using that strategy. In many cases, understanding why particular strategies work helps motivate students to use them in their other courses. Explanations and rationales for using these strategies are also presented so that students understand why one strategy may work in particular situations while others may not.

Examples

A large number of real student examples have been included in the text to demonstrate the strategies that are presented. For many students, seeing an example of what they have to do makes it much easier to do it right the first time. Because there are many ways for students to develop a study sheet, take notes, or even manage their time, a number of different examples are shown for each of the different strategies discussed in the text. These models help students understand how to use the strategies and may also motivate them to complete their assignments.

Practice

One of the most important goals of any college success, orientation, or learning strategies course is getting students to transfer what they learn to other course

work. In order to help students achieve this goal, more than 100 activities have been designed to let students practice what they have learned. In addition to the activities at the end of every chapter, the Activities Packet, available online, contains additional activities and excerpts from other college textbooks in many disciplines. In this way, students are afforded practice with material that is similar to the course material they are currently using. Finally, many activities require students to practice the strategies using their own course materials. In this way, students transfer the strategies they have learned to their other courses while at the same time increasing their understanding of the material for their other courses. In many cases, this leads to higher success overall, which helps students see the real value of learning strategy instruction.

Self-Evaluation

Many of the activities are designed to help students monitor their own learning. The “Where Are You Now?” activities provide a quick check of the number of effective strategies students already have before beginning each unit and the number they have made a part of their repertoire by the end of the unit. A new pre- and post-test assessment feature is now available on the student Web site, comprised of many of the items from the “Where Are You Now?” activities. In addition, activities throughout the book ask students to evaluate many of the strategies that are presented in the text. Only through self-evaluation can students actually prove to themselves that a given method of study is working for them. Once students know that a strategy is effective, they will be more motivated to continue to use it.

Changes in the Seventh Edition

Although additional changes were made in all chapters in this seventh edition, the most significant changes are listed below. A full transition guide is now available on the Instructor Web site for previous users of *Orientation to College Learning*, 6e.

Chapter Changes:

- Chapter 1, “Getting Motivated,” has a new title to reflect the new focus in this edition on student motivation. The connection between motivation and the other topics of active learning, strategic learning, self-regulated learning, and learning styles is made much more clear. Each chapter contains at least one motivational activity that helps students identify, get in touch with, or increase their level of motivation.

- Chapter 2, “Goal Setting,” now focuses on academic, personal, and career goals. A new section on career goals includes a self-assessment and helps students explore their career choices.
- Chapter 7, “Reading Your Textbook,” contains a new section on critical thinking and critical thinking activities are new in every chapter.

New Features:

- New focus on motivation throughout the text
- New Quick Start Page on How to Use This Book
- New Quick Start Page on Getting Motivated
- New motivation activities have been added to each chapter
- New critical thinking activities have been added to each chapter
- The list of “Terms You Should Know” has been moved to the first page of each chapter
- The “Where Are You Now?” Activity has been expanded to include a rating scale and space for students to write a response about what they learned after completing the assessment.
- New or revised figures and student examples in many chapters
- Updated Student Web site that includes new pre- and post-assessments (developed from the various “Where Are You Now?” activities), and new matching tests for “Terms You Should Know”
- The test bank has been moved to Instructor Web site for security purposes
- Revised PowerPoint slides are now available on Instructor Web site

New Sections:

- Mastery versus Performance Goals (Chapter 1)
- Use Active Study Strategies (Chapter 1)
- Maintain Academic Honesty (Chapter 1)
- Why Are Goals Important? (Chapter 2)
- Goal Setting and Motivation (Chapter 2)
- Learn How to Calculate Your GPA (Chapter 2)
- Explore Career Goals (Chapter 2)
- Improve Your Academic Standing (Chapter 2)
- Use Your Fixed Commitment Calendar to Schedule Your Tasks (Chapter 3)
- How to Take Notes in Different Formats (Chapter 5)
- Lack of Attention (Chapter 6)
- Lack of Interest (Chapter 6)
- Lack of Motivation (Chapter 6)
- Differences in College Textbooks (Chapter 7)
- Become a Critical Thinker (Chapter 7)

- What is Critical Thinking? (Chapter 7)
- Characteristics of Critical Thinkers (Chapter 7)
- Why is Critical Thinking Important? (Chapter 7)
- Decision Making and Problem Solving (Chapter 7)
- Write Questions in the Margin (Chapter 8)
- Get Motivated (Chapter 10)
- Get Motivated (Chapter 11)

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- Self-Regulation (Chapter 1)
- Characteristics of Self-Regulated Learners (Chapter 1)
- Academic, Personal, and Career Goals (Chapter 2)
- Use the Five-Step Approach (Chapter 2)
- Why Is Time Management Important? (Chapter 3)
- Create a Prospective-Retrospective Calendar (Chapter 3)
- Study in One-Hour Blocks (Chapter 3)
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- Overlearning (Chapter 4)
- How to Create Catchwords (Chapter 4)
- Why Take Lecture Notes? (Chapter 5)
- Provides an Accurate Record of Information (Chapter 5)
- The Informal Outline (Chapter 5)
- PowerPoint Presentations (Chapter 5)
- Why You Should Edit Your Notes (Chapter 5)
- Develop Recall Questions (Chapter 5)
- Reviewing Your Notes (Chapter 5)
- Deep Concentration (Chapter 6)
- Causes of Poor Concentration (Chapter 6)
- As You Read the Chapter (Chapter 9)
- Use Note Cards to Organize Text Material (Chapter 9)
- Learn About Yourself (Chapter 10)
- Divide the Material (Chapter 10)
- Use Active Preparation Strategies (Chapter 10)
- Use Active Review Strategies (Chapter 10)
- How to Make Study Sheets (Chapter 10)
- Evaluate After the Exam (Chapter 10)
- Answer the Easiest Questions First (Chapter 11)
- Strategies for Math Tests (Chapter 11)
- Essay Preparation Strategies (Chapter 12)
- Stay Motivated (Chapter 13)

Instructor's Manual

The *Instructor's Manual* includes an overview of each chapter, key terms and definitions, teaching suggestions, course materials and handouts, journal activities, and quiz questions. The test bank is now located on the Instructor Web site for security purposes.

Instructor Web Site

The Instructor Web site, which is password protected, contains all of the material from the *Instructor's Manual* in addition to an expanded Test Bank, so that you can download the materials that you want to use and simply print out syllabi, tests, quizzes, exercises, and handouts for use in your classes. The PowerPoint slides to accompany the text have been revised and redesigned. Included are slides that focus on the topics covered in the text, which can be used for class discussion. Instructors can log onto Cengage's Single Sign On (SSO) at www.cengage.com/login.

Student Web Site

Students using this text will have access to the *Orientation to College Learning* Companion Web site at www.cengagebrain.com. In addition to the answers to the end-of-chapter review questions, students will have access to text excerpts and four entire chapters from college textbooks for transfer practice activities, handouts on additional topics related to college success, calendars and forms, a self-scoring version of the learning style inventory, sample lectures for note-taking practice, word cards, crossword puzzles, chapter quizzes, journal activities, matching tests for the terms (new to the Web site), Internet exercises, Web links, and many other special features.

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Reviewers of Previous Editions

Phillis A. Aaberg, *University of Central Missouri*; Dennis Congos, *University of Central Florida*; Karen Goode-Bartholomew, *St. Norbert College*; Sharon Kousaleos, *Ohio University*; Jacqueline Simon, *Rider University*; Janet M. Zupan, *University of Montana*; Kimberly Cunningham, *University of Central Arkansas*; Amy Garcia, *Cypress College*; Kelly Hunt Lyon, *University of Central Arkansas*; Bailey Smith, *University of La Verne*; Ralph Anttonen, *Millersville University*; Laura Bauer, *National-Louis University*; Mary Lynn Dille, *Miami University*; Mike Elias, *Texas Woman's University*; Zola Gordy, *Maplewoods Community College*; Margaret Hébert, *Eastern Connecticut State University*; Faith Heinrichs, *Central Missouri State University*; Barbara McLay, *University of South Florida*; Nancy Mills, *University of South Florida*; Cassandra Patillo, *Santa Monica College*; Curtis Ricker, *Georgia Southern University*; Barbara N. Sherman, *Liberty University*; Will Williams III, *College of Charleston*.

Getting Started

You're probably feeling excited about beginning your college career. You should be—being in college is an exciting opportunity. Your college years are extremely important: They open many new doors—both socially and professionally—and, in many ways, shape your entire future.

How motivated are you right now? To succeed in college, you need to be highly motivated. Are you willing to make academics your top priority? You'll find that you are surrounded by choices in college—things that you could do that are easier or more fun, or perhaps, more important to you than going to class, reading textbooks, doing assignments, or preparing for exams. The motivation to achieve your goals can help you make the right choices. Many of you work at full or part-time jobs and have family responsibilities. You'll need to manage your time carefully to achieve your goals. Some of you think that you can complete all of your work in an hour after dinner, just as you did in high school. If you ask other students, they will tell you that college is like a full-time job. You'll need to put a lot more time and effort into your work to achieve your goals. That takes motivation!

This text introduces and explains many useful study strategies that will help you achieve your academic, personal, and career goals. If you're using this text before or during your first semester in college, you should be well prepared for the challenges ahead of you. If you've already attended one or more semesters in college, you may be enrolled in a study skills, college success, or learning strategies course because you weren't satisfied with your previous academic performance. By learning and applying new study strategies, you can succeed.

On the next page, you'll learn more about how to use this book. On the following Quick Start pages, you'll find over fifty active strategies to help you get off to a great start this term. Look them over. Put a check mark next to each of the strategies you already use. Then put a star next to each strategy that you would like to use to be more successful in college. Pick a few strategies from each page that you plan to start using right now and list them on page Q10. Each week, as you learn to use more new strategies in this course, add them to your list.

Best wishes for your future success,

Marina Van Blerkom

How to Use This Book



Terms You Should Know. You need to become familiar with the technical terminology used in the text. Create a flash card for each term found on page one of the chapter or use the flash cards on the Web site to learn the definitions.



Where Are You Now? Activities. Complete the “Where Are You Now?” activities before reading the chapter to evaluate your current strategy use. After you complete the chapter—or even two or three weeks later—complete the activity again on the Web site and compare your results.



Tip Blocks. The Tip Blocks found in each chapter include practical suggestions that will get you motivated, save you time, help you apply your strategies to your other course work, or give you tips for making studying more interesting and challenging.

Student Examples. The student examples shown in the text serve as models for many of the strategies that are described in each chapter. They include examples of how to take lecture notes, create recall questions, and set up study sheets, just to name a few of the applications you may find useful in this text.



Motivation Activities. The motivation activities found in each chapter are designed to help you reach a high level of motivation and maintain it throughout the semester. Just asking yourself why you want to complete a particular academic task helps you increase your motivation. Try it!



Critical Thinking Activities. The critical thinking activities in each chapter will help you develop your critical thinking skills. Learning to think critically will help you make better decisions, become a better problem solver, learn to read critically, and figure out the answers to exam questions, just to name a few uses to which you can put these new skills.



Self-Monitoring Activities. The self-monitoring activities can help you learn to monitor your learning. Knowing whether you're using effective strategies can help you make changes, if they're necessary, in order to be more successful in college.



Group Activities. Many students enjoy working with others and find that they learn more when collaborating on a project. Sharing ideas, resources, and strategies can help you succeed in college.



Orientation to College Learning Web site. The Orientation to College Learning Web site contains a wealth of information to help you get motivated, set goals, schedule your time, and monitor your learning. Many other features are also available, so check it out at www.cengagebrain.com.

Getting Motivated

- ☐ **Focus On Your Goals.** Motivation can be described as something that energizes, directs, and sustains behavior toward a particular goal. Now that you're in college, you have a goal—to graduate and earn a degree. You can increase your motivation by focusing on the goals that you've set for yourself.
- ☐ **Believe That You Can Be Successful.** You need to believe that you can be successful in order to get motivated every day to do your best. Believing you can succeed in college is the first step in achieving your goals.
- ☐ **Work Hard for Early Success.** Getting a high grade on your first assignment, quiz, or exam will let you know that you can succeed. When you know that you can be successful, you're more motivated to work hard the next time you have to complete a similar task.
- ☐ **Set Specific Goals.** It's easier to get motivated when you know exactly what you need to do. Set specific study goals each day. Don't just tell yourself that you need to do your homework, tell yourself that you need to "read pages 22 to 42 in Psychology at 7 PM."
- ☐ **Break Tasks Down.** You'll find that it's easier to get motivated if you break tasks down into small units. Instead of reading a fifty-page chapter all at one time, read it in chunks. Do half of your math assignment, take a ten-minute break, do a portion of one of your reading assignments, and after another break, finish your math.
- ☐ **Find the Value in Every Task.** Before you begin working on an assignment or studying for a quiz or test, ask yourself how completing that task will benefit you. You may find you'll learn something that will be useful in your future career or something that will help make you an educated person. Finding value in the task will increase your motivation to work on it.
- ☐ **Use Positive Self-Talk.** When you begin an assignment, you need to tell yourself that you can do it. Tell yourself that the task is important and worth the effort you will need to expend. Saying positive things about yourself and the task will help motivate you to put in the time and effort that you need to complete the task.
- ☐ **Work Hard to Do Your Best.** College is a training ground for the rest of your life. Learning to work hard in college will help you work hard when you begin your first job. You are building skills, knowledge, and habits in college. Work hard now so that you'll be used to working hard when you begin your future career.

Succeeding in College

- ❑ **Attend All Classes.** One of the best ways to succeed in college is to attend all classes. Although you'll be tested on material from the course text, most exam questions will come from lectures.
- ❑ **Participate in Class.** If you feel a bit uncomfortable participating in class, set a goal to either ask or answer one question during each class. Once you begin participating, you'll feel more a part of the class and will become more actively involved in the learning process.
- ❑ **Become an Active Learner.** Unlike high school, in college you can't learn all of the material by just reading over it a couple of times. You need to write and recite the information to get it into long-term memory.
- ❑ **Monitor Your Learning.** Self-test when you're studying to find out what you do know and what you don't know. When you find out what you don't know before the exam (rather than during it), you can go back and work on it.
- ❑ **Get to Know Your Professors.** Take a few minutes and stop to talk with each of your professors before class, after class, or during office hours. Ask a question about the material or check on your progress in the course. If you get to know your professors, you may feel more comfortable asking for help when you need it.
- ❑ **Stay Up to Date with Your Work.** Many new college students have difficulty keeping up with all of the reading that's assigned in college classes. It's critical for you to do each assignment before you attend the next class. If you get behind in your reading, you may never have time to catch up. The workload in college just increases as the semester progresses.
- ❑ **Be Receptive to Change.** If the strategies that you used in high school aren't working, ask your professor, tutor, or learning center staff for suggestions for different ways to learn the material. If you don't make changes in the way you take notes, read your texts, or prepare for exams, for example, you won't see changes in your performance.
- ❑ **Work Hard.** Forget about doing all of your assignments in the evening. If you're taking fifteen credits, you'll need a *minimum* of thirty hours (two hours outside of class for every hour in class) to do your work. If you want high grades, if you work slowly, or if you're taking difficult courses, you'll need more time to do your work well.
- ❑ **Drop a Class When Necessary.** Don't be afraid or ashamed to withdraw from a class when you know you aren't going to pass it. You don't earn credits for failed courses, but they really pull down your grade point average. Check your college calendar to make sure you know the last day you can drop a class. Then talk with your course professor before making your decision.

Managing Your Time

- ☐ **Keep a Time Log.** The first step in good time management is to evaluate how you use your time now. Write down how you spend your time every hour, every day, for one week. Then go back and count how many hours you spent studying, attending class, eating, sleeping, commuting, getting ready for class, watching TV, surfing the Net, texting, e-mailing, socializing, and so on.
- ☐ **Create a Fixed Commitment Calendar.** Write in all of your fixed commitments (things you do on a regular basis) on a twenty-four-hour/weekly calendar. Then identify the time you have available for study. If you work and attend class full time, you may have very few empty blocks. If not, you should have plenty of time for study and social activities.
- ☐ **Calculate How Much Time You Need for Study.** You need a *minimum* of two hours outside of class for every hour you're in class (a 2 to 1 study ratio) to complete your work. However, if you want to earn high grades, have difficult classes, or work slowly, for example, you need to increase your study ratio to 3 to 1, 4 to 1, or even 5 to 1.
- ☐ **Keep a Study Log.** Take a few minutes each day to keep track of how much time you're spending on your work. Write down the name of each class and how many hours (or parts of hours) you study. At the end of the week, add up your totals for each class. Check to see whether you're spending the appropriate amount of time on every course.
- ☐ **Create an Assignment Calendar.** During the first week of classes, list all of your assignments, quizzes, and exams on a blank Assignment Calendar so you can see what's due on any day and for at least two weeks in advance. Rather than consulting your course syllabi one at a time every day, having a semester view of what you have to do and when it's due will help you plan more effectively.
- ☐ **Use Daily "To Do" Lists.** Make out a list every evening of what you plan to do tomorrow. Break tasks down, set priorities, and separate academic and personal goals.
- ☐ **Schedule Your Study Time.** Plan to study in one-hour blocks (fifty minutes for study and a ten-minute break). Schedule study time throughout the day so that you can complete at least two of your study tasks before dinner. Use time between classes to get a start on your next assignment.
- ☐ **Switch Subjects.** If you have long study blocks (three or more hours), start with one task, such as reading twenty pages of Sociology, and then switch off after fifty minutes (and a ten-minute break) to work on your English paper. After another fifty minutes (and break), switch to something else or back to more Sociology. Switching subjects increases your motivation and keeps you working longer.

Taking Lecture Notes

- ☐ **Read the Chapter Before the Lecture.** You'll get more out of attending class lectures if you read the chapter (or at least skim through it) before the lecture. You'll build background about the topics, get a sense of how the material is organized, and become familiar with important names and technical terms, which will help you better understand the lecture and take better notes.
- ☐ **Review Your Notes from the Last Lecture.** As you're sitting in class waiting for your professor to begin, take a few minutes to review the last set of notes you took. Most course professors pick up just where they left off at the end of the last class. Your review will help you get a better sense of how the new information is connected to what you already have in your notes.
- ☐ **Sit in the Front of the Classroom.** There are many advantages to sitting in the front of the classroom. The obvious ones are that you'll see and hear better, but you'll also find that you tend to be more actively involved in the class when you sit near the front. You'll also find that you have many fewer distractions, so you'll be able to concentrate more on the lecture.
- ☐ **Be an Active Listener.** Getting involved in the lecture is essential for understanding the material. Pay attention and tell yourself you want to listen. Participate by asking and answering questions in class and taking notes.
- ☐ **Take Notes.** If you're a new college student, you may think that sitting back and listening carefully to the lecture will help you learn the material. That may be true; however, you won't be able to remember it. You must take notes so you'll have a record of the information from which to study.
- ☐ **Write Down Main Points and Details.** As you take notes, listen for the main points (topics) that the professor is presenting and write them next to the margin. Then indent a little and write down as many details as you can. Until you learn more about how to take lecture notes, just write as much as you possibly can during each class.
- ☐ **Edit Your Notes After the Lecture.** As soon as possible after the lecture, edit your notes. Think back to the lecture, use your textbook, or get together with a classmate or study group to fill in gaps, check for accuracy, clarify meaning, and improve the organization in your notes. Write questions about the important information in the margin of your notes.
- ☐ **Review Your Notes.** At the end of the week and before exams, you need to review your notes to put the information into long-term memory and to keep it accessible. Instead of reading over your notes, write or recite the information using the headings and questions in the margin as cues.

Reading Your Textbook

- ☐ **Preview the Chapter Before You Read.** Read the title, introduction, and headings; glance at graphics; and read the summary. A two- to five-minute preview will increase your comprehension, build interest, and reduce the total time it takes to read the chapter.
- ☐ **Divide the Chapter into Chunks.** Break the chapter into ten- or fifteen-page chunks. Dividing the chapter into smaller reading segments increases your comprehension and improves your concentration and memory.
- ☐ **Space Your Reading.** If you have a forty-page chapter to read for your Wednesday afternoon class, space your reading out over two or three days. Read one chunk on Monday after class, two chunks on Tuesday, and the last ten pages on Wednesday morning.
- ☐ **Use a Reading/Study System.** Use a reading/study system such as P2R, SQ3R, or S-RUN-R to read your text assignments. Each of these systems includes strategies to use before reading, during reading, and after reading.
- ☐ **Mark the Text or Take Notes as You Read.** Highlight or take notes at the end of each paragraph or headed section. Don't start marking until you've at least finished reading one sentence and work toward reading a whole paragraph before marking. Marking and note taking condense the material and help you identify the important information.
- ☐ **Write Questions in the Margin.** At the end of each headed section, go back and write questions about the important material you highlighted or noted in the margin. Then underline the answers. Writing questions in the margin increases comprehension dramatically and provides you with a self-test for later review.
- ☐ **Pause to Monitor Your Comprehension.** Pause at the end of every headed section or page and think about what you just read. Recite or mumble the main points or concepts that were presented.
- ☐ **Quiz Yourself to Test Your Understanding and Memory.** After you finish reading, go back and quiz yourself on the material. Recite the answers to the questions that you wrote. Then cover your marking or notes and, using the headings as cues, recite the details.
- ☐ **Evaluate Your Reading.** Check your understanding of the material by discussing it with a classmate, friend, or study group. If you can't talk about it, you didn't understand it. Test your marking and notes by comparing them with those of other classmates or by checking with your professor to see whether you identified all of the important information.

Preparing for Exams

- ☐ **Gather Information About the Exam.** About a week before the exam, make sure you know which chapters and lectures the exam will cover. You'll also be able to prepare better if you know how many questions will be on the exam, what types of questions will be asked, and the point value of each part of the exam.
- ☐ **Space Your Study.** Space out your study using the Five-Day Study Plan. Cramming the night before the exam simply isn't very effective for storing information in long-term memory. Study for about two hours a day for four to six days, for a total of about eight to ten hours (or more).
- ☐ **Divide the Material.** Divide the material you need to learn into chunks. For an exam covering four chapters, focus on one chapter (and accompanying lecture notes) each day and plan a final review on day five.
- ☐ **Plan Daily Reviews.** After studying a new chapter, go back and review the material that you created for the previous chapters. Daily repetition will help you learn the information, form more cues to remember it, and keep it fresh in memory.
- ☐ **Make Word Cards.** Although you're rarely required to write out definitions of the technical terminology, you do need to know them. Most exam questions involve technical terms in the questions and/or in the answers. Make out a set of word cards for each chapter with the term, name, event, theory, or even formula on one side of an index card and the definition or identification on the back. Then practice them until you know them.
- ☐ **Predict Questions.** Predict your own test questions. Write questions in the margin of your text and lecture notes or put them on index cards and practice answering them every day during your study plan.
- ☐ **Make Study Sheets.** A study sheet is a one-page compilation of all of the important information about one topic. Pretend you're allowed to take one 8 1/2 by 11 sheet of paper into the test with anything you want on it about one topic (be sure to make three to seven study sheets per chapter).
- ☐ **Self-Test to Monitor Your Learning.** Don't just read over the material as you review it each day; test yourself by reciting from memory. Recite the answers to your word and question cards. Recite the information on your study sheets using the topic as a cue. Review your notes by covering the details and reciting them using the headings as cues.

Taking Exams

- ☐ **Read Directions Carefully.** If you want to do well on exams in college, you must read the directions to every section of the exam carefully. Not all exams are the same, and not all sections of the same exam have the same directions.
- ☐ **Reduce Your Anxiety.** It's common to feel nervous before an exam, but some students become so anxious that it interferes with their performance. Take a minute or two at the beginning of the exam to calm down. Take a deep breath, do a few relaxation exercises, and tell yourself you will do well because you're well prepared.
- ☐ **Budget Your Time.** Preview the exam to see how many questions you have to answer, what types they are, and their respective point values. Then divide your time based on the point value of each section of the exam.
- ☐ **Answer the Easiest Questions First.** Instead of wasting a lot of time trying to come up with answers that you simply don't know or can't figure out, answer the easiest questions (the ones you know immediately) first. Then go back and figure out the answers to the more difficult questions afterward.
- ☐ **Eliminate Wrong Answers.** When taking multiple-choice exams, don't look for the right answer. Instead, try to eliminate all the wrong answers. The only response left should be the correct one.
- ☐ **Underline Key Words.** Underline key words in the question that help you focus on what the question is asking. You may also find it helpful to underline or circle the word or words that make a statement incorrect. Professors often make statements wrong by substituting an incorrect word or phrase for the correct one.
- ☐ **Do a Memory Search.** When you don't know an answer immediately, don't give up. Do a memory search to try to find a cue to it in your long-term memory. Ask yourself which chapter it came from, which topic it involved, which study sheet it was on, and similar questions.
- ☐ **Guess Strategically.** When you can't figure out an answer, don't just leave a blank or make a random guess. Instead, use strategic guessing. Look for patterns, put all true or all false for the ones you don't know, or count your responses in case your professor uses a balanced answer key. You won't get them all correct, but you might pick up a few points.
- ☐ **Plan Before Answering Essay Questions.** Before you start writing out your essay answer, take a few minutes to plan in the margin. You'll be able to gather your thoughts, organize them, and evaluate the quality of your answer before you even begin.

Strategies for Success

In the spaces below, list the strategies that you plan to use right now to get this semester off to a great start!

Getting Motivated

Succeeding in College

Managing Your Time

Taking Lecture Notes

Reading Your Textbook

Preparing for Exams

Taking Exams

Getting Motivated

CHAPTER

1



"I've always known that motivation was one of the keys to success; however, I often found that I did not know how to get motivated. At the end of the first term of my freshman year, I found that all it takes is the individual will to reach your goal. All you have to do is persevere and hang on."

James Decker, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Active learners

Auditory learner

Evaluation

Extrinsic motivation

Independent learners

Intrinsic motivation

Kinesthetic learner

Learning style

Mapping

Mastery goals

Metacognition

Monitoring

Motivation

Performance goals

Plagiarism

Planning

Self-efficacy

Self-regulated learners

Skill

Strategic learners

Stress

Visual learner

Will

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Are you motivated to do your assignments in all of your classes?	_____	_____
2. Do you know how to increase your motivation?	_____	_____
3. Do you know where to go on your campus to get financial aid, a tutor, and information on clubs and organizations?	_____	_____
4. Do you attribute your success or failure to how hard you work?	_____	_____
5. Do you know your preferred learning style?	_____	_____
6. Do you attend class regularly and stay up to date with your assignments?	_____	_____
7. Do you experience stress about getting your assignments done on time?	_____	_____
8. Do you stop working on a task when it becomes difficult?	_____	_____
9. Have you really thought about why you are in college?	_____	_____
10. Do you self-test or take online tests before quizzes and exams?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to all questions except 7 and 8, and 1 point for each *no* answer to questions 7 and 8. Total up your points. A low score (0–4) indicates that you need some help getting motivated. A score of 5 to 7 indicates that you are motivated in some areas but not in others. A high score (8–10) indicates that you are well motivated to succeed in college.

What did you learn from completing this activity?

GET MOTIVATED TO LEARN

In order to succeed in college, you need to be motivated. Without sufficient motivation, you might find yourself sleeping all day or just sitting around doing nothing. You need to activate and channel your motivation in the right direction. You need to be motivated to attend your classes, complete your assignments, and prepare for exams. In this section, you'll learn about various types of motivation, your level of motivation, the causes of motivation problems, the factors that influence motivation, and some strategies that you can use to increase your motivation.

What Is Motivation?

Motivation can be described as something that energizes, directs, and sustains behavior toward a particular goal. As you'll see later in this section and in Chapter 2, motivation and goal setting are interrelated. If you are reading this chapter now, you and others who are doing the same thing have the same goal—to read Chapter 1 in *Orientation to College Learning*. Your goal is *what* you want to do. Your motivation is *why* you decide to do it. In class, I told my students that each of them had the exact same goal that day. When I asked what it was, someone eventually said, “to come to class.” I then asked them to jot down why they came to class. After they did that, I explained that even though all of us (including me) had the same goal, we did not all have the same motivation (why we came to class). When I asked my students to share their motivation for attending class, they gave a variety of reasons. Think about why you went to class today or yesterday. Some of the reasons that my students gave were “to learn new study strategies,” “to get better grades this term,” “to get the information so I have it to study from,” “to take my own notes in class,” “to learn something that may help me be more successful,” “because I haven't ever missed a class yet and it's personally important to me,” and “to get my money's worth.” Are the reasons that you go to class on this list? If not, jot your reasons in the margin. Many students actually have more than one reason for attending class—they have multiple motivations. When you're getting ready to go to class, do an assignment, or even prepare for an exam, think about why you want to accomplish that goal. Getting in touch with your motivation(s) can actually motivate you to work harder and can lead to more success.

Two Types of Motivation

There are many types of motivation; however, the two main types of academic motivation are intrinsic motivation and extrinsic motivation. Intrinsic motivation is the type of motivation that comes from inside of you—internal

motivation. Many students are more motivated to work on a task when they have a personal interest in completing it, or they find it challenging. Other students are motivated because they take pride in their work or feel satisfaction when they complete the task. If you are personally interested in learning how to use a particular computer program, for example, you may be highly motivated to achieve that goal. Sometimes, students find that their interest in the task, the material, or a certain course can motivate them to work on the task. Working on a task because you want to learn or do something (even when you don't have to) can be described as *intrinsic motivation*.

On the other hand, you may be motivated by the promise or expectation of earning rewards (such as a car, money, or a trip), grades, or other types of external gain (praise from instructors, family, or friends). Being motivated by external factors can be described as *extrinsic motivation*—external motivation. If you were told to learn to use a computer program as a part of a course assignment, for example, but had little personal interest in using it, you may find that you are less motivated. You might be more motivated to complete an assignment to earn a good grade rather than by a desire to learn the information.

However, it's not an "either/or" situation where motivation is concerned. Many students are motivated by a combination of intrinsic and extrinsic motivation. You may begin to read a textbook chapter, for example, because you're concerned about your grade in the course (extrinsic motivation). However, as you are reading, you may find that you become interested in the material and want to learn more about the topic (intrinsic motivation). Your increased interest in the material may actually increase your motivation to complete the task, perhaps with even more effort. You may really like the courses in your major and want to master the material (intrinsic motivation), but you may also want good grades that will help you be competitive in the job market (extrinsic motivation). Your combined interest in the material and your desire to pursue your career goals can help motivate you to work even harder in the courses in your major.

How Motivated Are You?

Psychologists have been trying to explain why some people work hard at a task while others choose not to do so. How motivated are you? In the margin, jot down three academic study tasks that you completed recently. You might list a chapter that you read, a math homework assignment, or an essay that you wrote. Next, answer each of the following questions:

- How hard did you work when completing the task? Rank your level of effort on a scale of 1 to 10 with 10 being a great deal of effort and 1 being very little effort.
- Were you bored at any point when completing the task? If so, put a B next to the task.

- Did you find that the task became difficult at any point? If so, put a D next to the task.
- Did you have difficulty concentrating when completing the task? If so, put a C next to the task.

How you answered each of these questions may give you a better understanding of how motivated you are. Look at the numbers that you wrote down to indicate your level of effort. Were all of them the same? If not, that means that you put more effort into some tasks than others. Your level of effort is often determined by your motivation. Most students tend to work harder on tasks when they are more motivated but make less effort when they are not as motivated. However, there are exceptions. For example, some students make less effort because they find that some tasks are relatively easy to complete. Generally, students need to have a high level of motivation to expend a high level of effort when completing a task. Look at the tasks that you listed. Did you work harder on the tasks that you were more motivated to complete?

Did you write a B next to any of the tasks? You may have felt bored because the material was boring, the task was too easy, or you weren't very interested in the subject. The key question, though, is whether you completed the task even though you found it boring. Students with high motivation continue working even when the task becomes boring. Those who have lower levels of motivation often give up when they become bored. If you felt bored at any time, did you continue to work until you completed the task?

Look next to see if you wrote a D next to any of the tasks. Many tasks get harder as you progress through the material. Math homework, for example, tends to start out with easy problems and end with the most difficult ones. Many students find that they run into difficult material or difficult sections when reading textbooks and writing papers. Students with low motivation tend to quit or give up working on a task when it becomes difficult. Did you? Or did you continue working until you completed the task? It takes a high level of motivation to keep going and finish the task when it becomes difficult.

You may experience the same challenges when you have trouble concentrating. Many students find that they have difficulty concentrating because they aren't very motivated. They may think about other things that they would rather be doing. Others, of course, run into trouble because they try to study in a distracting environment. Did you complete the task even though you had difficulty concentrating? You need a high level of motivation to complete a task when you have trouble concentrating.

Motivation, as you can see, has a huge impact on how you do your work in college. It can influence class attendance, whether you pay attention or take notes in class, how effectively you complete your assignments, and how you prepare for and take exams. Among other things, motivation affects the following:

- Whether you begin an assignment (a task)
- Whether you complete it

- How you do it—the processes you use (whether you skim a chapter, highlight it, take notes while reading, or quiz yourself on the material)
- How much time you spend on the task
- How much effort you put into doing it
- How much you learn in the process of completing the task

Causes of Motivation Problems

Students generally are highly motivated; they just aren't all motivated to do the same things. Many students have high motivation to succeed in college, but others are more interested in making friends, paying the bills, socializing, playing sports, or participating in other activities. Abraham Maslow described seven categories of needs—Maslow's hierarchy of needs (see Figure 1.1).¹ Maslow described the first four levels as deficiency needs. He suggested that people's need for food, water, and shelter was critical for survival and motivated them to act. Once those needs were met, people were motivated by their need to feel safe and secure. After those needs were met, people were motivated by the need for love and belongingness. Once people had met those needs, they could begin to develop feelings of self-worth and self-esteem.

According to Maslow, until the first four levels of needs are met, students cannot be motivated by their need to know and understand. This need is one of the growth needs and central to college success. Although many students come to college with their deficiency needs met, others do not. Some students are still striving to meet their needs for love and belongingness and for self-esteem. In some cases, students come to college having met the deficiency needs—only to find that their new environment has challenged those needs once more. Some students who go away to college find that they are suddenly motivated by their need for love and belongingness. Others have experiences that put their need for safety at the forefront. According to Maslow, these students won't be motivated by their need to know and understand until they have met their need for safety and security.

Maslow's hierarchy of needs may in fact explain why some students aren't successful in college. I recently worked with a student who made the Dean's List during her second term in college but earned below a 1.0 GPA during her first term. When I asked her what happened, she explained that she was terribly homesick and didn't get along with her roommate. She was so focused on fulfilling her need for love and belonging that she became depressed and didn't accomplish anything academically. During her second term, she found a roommate who was supportive, met with me biweekly, and had several instructors with whom she was able to

¹A. H. Maslow, *Toward a Psychology of Being*, 2nd ed. (New York: Van Nostrand, 1968).

FIGURE 1.1

Maslow's Hierarchy
of Needs



From D. Martin and K. Loomis, *Building Teachers*, 1E, pp. 72–75, © 2007 Wadsworth, a part of Cengage Learning, Inc. Reproduced by permission. www.cengage.com/permissions

connect. Because her deficiency needs were met, she was motivated to learn and achieve her goals.

Some students experience low motivation at the beginning of a course or lose their motivation as the course progresses. For some students, this may be due to deficiency needs, but for others it may be due to problems with specific courses or with individual instructors. A number of the causes of low motivation are listed in the chart in Figure 1.2. Put a check mark next to any of the reasons that caused you to experience low motivation in college.

Factors That Influence Motivation

Although many factors influence motivation, your goals, your self-efficacy, and your level of effort are perhaps the most important ones for college success (see Figure 1.3).

FIGURE 1.2 Reasons That Students Have Low Motivation

General Reasons	Course-Specific Reasons
<p>don't believe I can do it</p> <p>too tired to do anything</p> <p>homesickness</p> <p>more interested in socializing</p> <p>friends aren't in school so they don't have the same work to do</p> <p>competition for time with my job</p> <p>my goals seem so far away</p> <p>there's always something better to do</p> <p>fear of failure</p> <p>too many distractions</p> <p>family or relationship problems</p> <p>no friends here</p> <p>roommate problems</p> <p>too much freedom to do what you want</p> <p>stressed out</p> <p>tired of school and want the term to be over</p> <p>don't know what I want to major in</p> <p>first time I ever had to manage my time myself</p> <p>thought college would be more like high school</p>	<p>couldn't understand the material</p> <p>homework isn't collected or graded</p> <p>professor is boring, or doesn't care</p> <p>not interested in or don't enjoy the class</p> <p>workload got too heavy</p> <p>course is not relevant to my major</p> <p>plan to change my major and class won't count</p> <p>class became boring or repetitive</p> <p>got a low grade on first assignment or first exam</p> <p>assignments were just "busy work"</p> <p>felt like I'd never use the "stuff"</p> <p>grade on the first exam didn't meet my expectations</p> <p>didn't like the class or didn't like the instructor</p> <p>didn't see any value in the class</p> <p>wasn't learning anything I didn't know</p> <p>felt like I should have been in a higher-level course</p> <p>text reading was never on the exam</p> <p>at some point lost hope (no chance to pass)</p> <p>got so far behind that I knew I couldn't catch up</p>

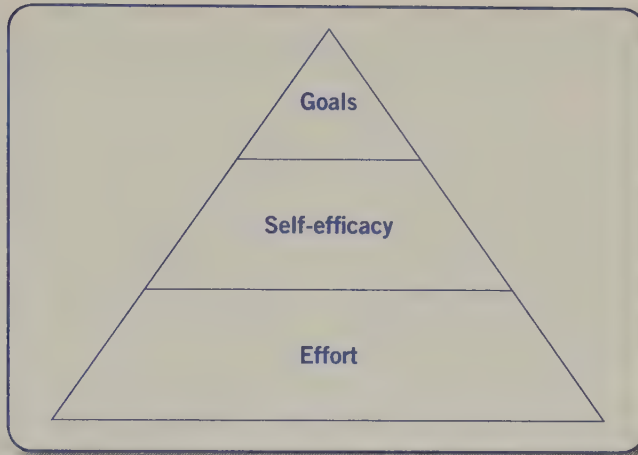
Goals

Your goals influence your motivation to complete a task. When you evaluated your level of motivation earlier in this section, you were asked to list three academic tasks. Each of those tasks was actually a written goal. By setting a goal, you are able to decide how to direct your time and effort. In each of those cases, you decided to spend your time and put your effort into an academic task. Without academic goals, you might have spent that time playing computer games or surfing the Net. Goals help direct your effort—they channel your energy. You could work hard writing a paper, or you could work hard playing basketball with your friends. In each case, your decision about how to spend that time—your goal—would have motivated you to work hard.

In Chapter 2, you'll learn more about how to write effective goal statements, but for now, think about how you set goals to complete your work. Do you set specific

FIGURE 1.3

Factors That
Influence
Motivation



goals so that you know exactly what you need to do when you sit down to study? Do you set realistic goals—ones that you can achieve? Do you set challenging goals, or do you simply plan to do as little as possible to “complete” the task?

Mastery versus Performance Goals. Students are typically motivated to complete academic tasks by setting either mastery goals or performance goals. *Mastery goals* (often referred to as learning goals) can be described as goals that focus on learning the material or on mastering new skills. Mastery goals motivate students to learn the course material—to master it—for the sake of learning it. You might think of these goals as stemming from intrinsic motivation. Mastery goals help students persist, or persevere, even when the task becomes difficult. Students who are motivated by a desire to achieve success set mastery goals. They are more likely to select moderately difficult tasks that provide them with a challenge but still seem within their reach.²

Performance goals can be described as goals that involve achieving good grades or gaining praise or recognition by outperforming others. Performance goals are often associated with extrinsic motivation. For example, a student recently reported that he had earned a 60 percent score on a biology exam. Rather than being upset by such a low score (which seemed to indicate that he had not mastered the material), he was elated. He explained that the class average on the exam was only a 55 percent and that he had done better than most of his friends. He was clearly more motivated by performance goals than by mastery goals.

Performance goals are not all bad, though. Performance-approach goals can be powerful motivators. Students who set goals to achieve high grades, to be the best

²W. Huitt, Motivation to Learn: An Overview. Educational Psychology Interactive (Valdosta State University, Valdosta, GA, 2001), p. 10. Retrieved March 28, 2008 from <http://chiron.valdosta.edu/whuitt/col/motivation/motivate.html>.

in the class, or even to gain the praise of others are often very motivated to succeed. However, performance goals are not as effective as mastery goals for motivating students to work hard to achieve success. Sometimes performance goals can motivate students to take short cuts (such as cheating) in order to succeed. On the other hand, students who are motivated by performance-avoidance goals (avoiding getting the lowest grade, avoiding looking dumb, avoiding being the last, or avoiding the criticism of others) tend to be less motivated to work hard. In many cases, these students are motivated to do only enough (as little as possible) to avoid a low grade or avoid looking bad, for example. These students tend to select either easy tasks (which lead to success) or difficult tasks (which can provide a good excuse for failure).³

Self-Efficacy

Your belief in your ability to successfully complete a task is often described as *self-efficacy*. Your level of self-efficacy can affect your level of motivation. If you have high self-efficacy—if you believe that you can successfully complete the task—you'll be more motivated to work on it. Unlike self-confidence, self-efficacy is task specific. You may have high self-efficacy about completing your math assignment but low self-efficacy about writing a term paper for your Introductory Sociology class. Each time that you're successful in accomplishing one of your goals (completing a task), it increases your self-efficacy so that you can complete a similar or even more difficult task in the future. Students who have high self-efficacy are also more likely to persist on a task when it becomes difficult. For these reasons, many psychologists believe that past successes lead to future successes.

Effort

Your motivation is also affected by the strength of your belief that the amount of effort you put forth on a task can affect your performance. If you attribute your successes and your failures to your level of effort, you are more likely to be motivated to work hard to complete a task. You can control the amount of effort that you exert when working on a task. Unlike luck, which is out of your control, you can exert a lot of effort, very little effort, or no effort in completing a task. Many study skills experts believe that students need to work hard at the beginning of the term so that they can see that the amount of effort they put toward their academic tasks does have a positive effect on their performance. Early success (knowing you can learn the material and achieve your grade goals) is very motivating for new college students. This early success can therefore lead to even more success. You may find the following formula will help you put all of this together: Motivation leads to increased effort, which leads to success.

$$M \rightarrow \uparrow E \rightarrow S$$

³Ibid.



Ten Tips for Increasing Your Motivation

- ❑ **Set challenging but realistic goals.** You will be more motivated to complete tasks when you feel that they are challenging yet attainable. You may also find that thinking of each task as a step toward achieving your long-term personal or career goals helps keep you motivated.
- ❑ **Set learning goals.** Decide what facts, concepts, or ideas you want to learn before beginning to work on a task. Setting learning goals can motivate you to put more effort into a task.
- ❑ **See the value in the task.** Understanding why you are doing the task—seeing the importance of the task—can motivate you to complete it. You may also find that you have a personal interest or find enjoyment in completing the task.
- ❑ **Use positive self-talk.** When working on a long or difficult task, you may find that telling yourself that you can do it, why it's important, or that you are almost done can keep you going. Reminding yourself that you are good at math, for example, can help motivate you to complete difficult problems.
- ❑ **Break down tasks.** Some students have trouble getting motivated to start a task that appears to be long and difficult. Breaking down the task into parts (listing and working on them one at a time) can make it more manageable and thus increase your motivation.
- ❑ **Monitor your progress.** Checking off each part of the task on your “To Do” list as it is completed can give you a sense of accomplishment, which motivates you even more.
- ❑ **Monitor your learning.** Answering your own self-test questions, taking end-of-chapter tests, and reciting from memory are just a few ways of monitoring your learning. When you know your time, effort, and study strategies are working to help you learn, you'll be more motivated to continue working.
- ❑ **Create interest in the task.** You can also increase your motivation by making the task more interesting. If you're not interested in the material you're reading, you can create interest in the task by taking notes or generating self-test questions in the margin to make the task more interesting.
- ❑ **Get your money's worth.** Your college education is your key to the future. Deciding that you want to get your money's worth can motivate you to go to class and work hard to be successful in college.
- ❑ **Learn from your mistakes.** Learning why you were unable to successfully complete a particular task or achieve a specific goal can also increase your motivation. Knowing what you need to do differently can motivate you to work hard after a “failure.”

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Strategies for Increasing Motivation

Students can use hundreds of strategies to increase their motivation. Although all of the chapters in this text contain strategies that will help you increase your motivation, working hard, increasing your level of interaction, and using active study strategies will help increase your motivation to complete your work. You'll also find that the Tip Block contains a number of basic strategies that you can use to increase your motivation now.

Work Hard

One of the most important steps in getting motivated is to work hard—to exert effort—on a task. In high school, many students did just enough to get by. Did you “cruise” through high school? Did you spend only one hour a day doing homework assignments or studying for tests? If you answered “yes” to either of these questions, you’ll have to change your study patterns in college. To be successful in college, you need to put school first. If you’re a full-time student, you need to spend twenty-five to thirty-five hours or more each week reading, doing assignments, and preparing for exams. Putting more time and effort into your work can make a difference in your performance, and ultimately, your success.

Increase Your Level of Interaction

You’re probably wondering how you could possibly spend so much time doing assignments and studying. Think about how you completed your last reading assignment. Did you just skim it? If so, you probably exerted very little effort and put very little time into the task. Unfortunately, you probably didn’t get much out of the text, either. Instead, you need to increase your level of interaction with your reading assignments. I have developed a hierarchy of tasks that shows increasing levels of involvement with the material. See Figure 1.4, and put a check mark at your current level of involvement.

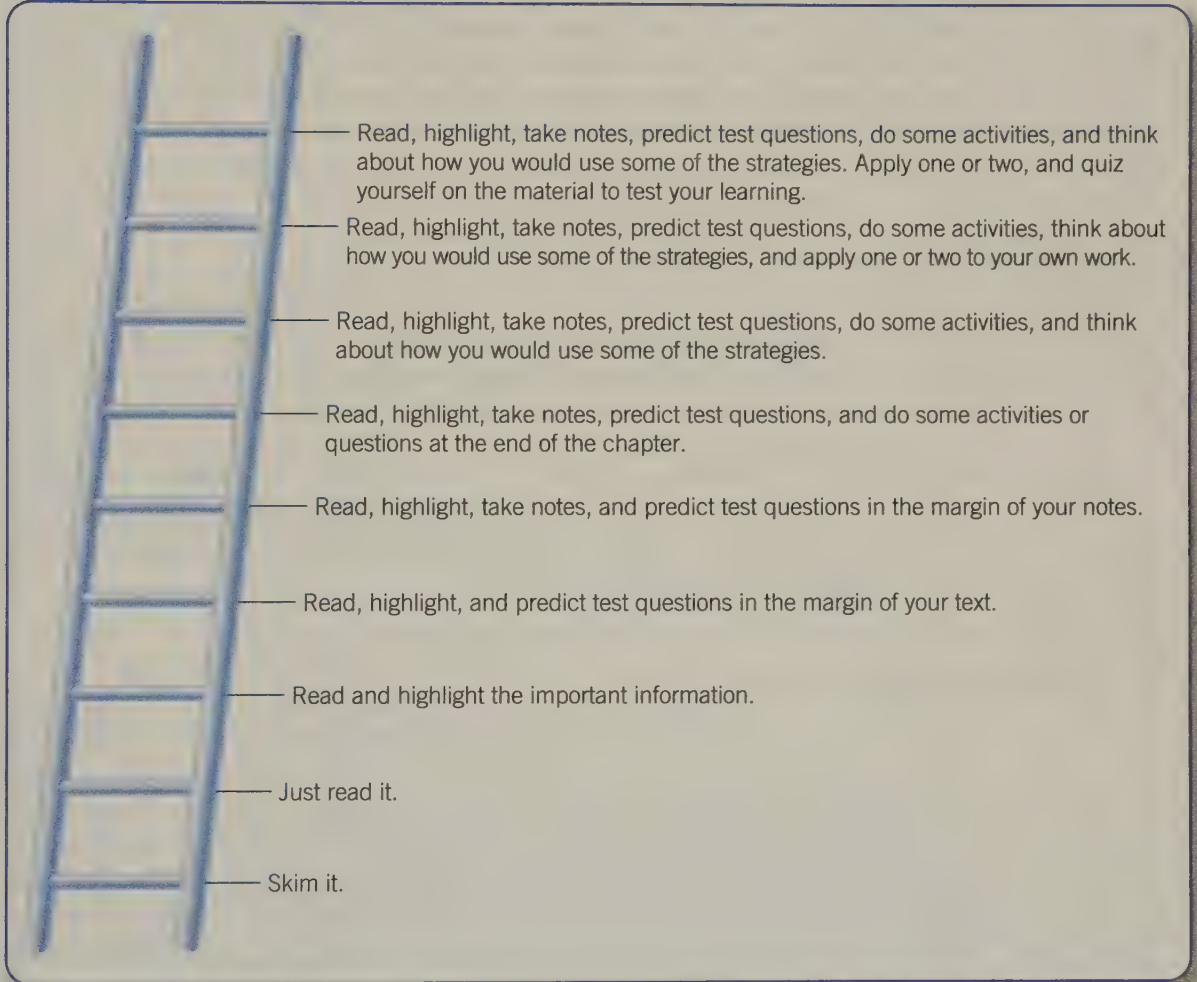
You may find that your check mark is near the bottom of the ladder, or you may be working somewhere in the middle. If you are working very hard, your check mark may be near the top of the ladder. You probably can’t jump from the bottom of the ladder to the top overnight—you may need to learn more study strategies. However, as you move through this text and learn how to use the strategies that are presented, I hope you will increase your level of involvement as you complete your assignments. As you can see, increasing your level of involvement is not just about putting in more time and more effort. It’s also about using the right strategies for the task. The formula that follows should help you be more successful in college.

$$\text{T (Time)} + \text{E (Effort)} + \text{RS (the Right Strategies)} = \text{Success}$$

You may find that you are willing to work harder in some classes and put less effort into others. Ideally, you should make the greatest effort in all of your classes, but your prior knowledge, your time constraints, and your goals all are factors that will determine your level of effort. Remember, the harder you work and the more actively involved you are with the material, the more you’ll learn.

Use Active Study Strategies

Getting actively involved in your learning requires motivation. You need to be more motivated to highlight your text or take notes on your reading because both

FIGURE 1.4**Levels of Interaction**

highlighting and note taking require more time and more effort than just reading the material. Using active study strategies can increase your interest in the task, can make it more challenging, and will require you to make more effort. Using active study strategies that work can help you achieve more success. That helps raise your self-efficacy and increase your motivation the next time you have to complete a similar task. Knowing which strategy to use for a specific task and that the strategy will work can help you be more motivated to work hard as you complete your academic tasks.

Active study strategies that will increase your motivation include previewing your textbook chapter, making word cards, and highlighting or taking notes as you

read. In addition, self-testing and working with a study group can help you get more motivated to learn the course material before an exam. If you don't like attending one or more of your classes because you find it boring, you can increase your motivation to attend by getting more actively involved. Taking notes and asking or answering questions can make you an active participant in the class, increasing your motivation to attend and learn.

CHARACTERISTICS OF SUCCESSFUL STUDENTS

What makes some students succeed in college and others fail? Faculty, administrators, and students have discussed that question for years. Although there is no exact formula for success, research indicates that some factors do lead to success. Successful students are actively involved in their learning. Successful students view learning in a systematic way—they are strategic learners. In addition, successful students are more likely to plan, monitor, and evaluate their learning—they are self-regulated learners. Finally, successful students take responsibility for their own learning—they are independent learners.

Become an Active Learner

How do you typically prepare for a quiz or an exam? Most students say they read over the material. Is that what you said? You may be thinking that reading over the material worked well for your high school exams. Unfortunately, you'll have to use more active study strategies for college exams, because they contain much more information and occur much less frequently. Many college exams cover two to three hundred pages of text and four weeks of lecture material. You can't learn all of that information just by reading over it a few times. Instead, you need to identify the important information, condense it, and organize it. In order to accomplish those goals, you need to use active study strategies such as taking notes, writing questions in the margin of your text and notes, making word and question cards, developing study sheets, participating in study groups, and self-testing to learn the material.

Characteristics of Active Learners

Active learners talk and listen, write, read, and reflect on (think about) what they are learning.⁴ Talking about the information and listening to others discuss the information in a study group, for example, gets you actively involved in the learning

⁴Chet Meyers and Thomas B. Jones, *Promoting Active Learning: Strategies for the College Classroom* (San Francisco: Jossey-Bass, 1993).

process. In addition to reviewing the information, you are elaborating on it by putting it in your own words, which makes it easier to learn. When you're reading, you need to get actively involved, too. Active reading involves previewing, highlighting, predicting test questions, and thinking critically about the material, all of which force you to interact with the printed word. These strategies help you activate your prior knowledge (what you already know about the topic), identify the key information, check your understanding of it, and form connections within the material. Taking notes, developing study sheets, and writing out answers to predicted essay questions help you organize and synthesize (combine the parts into a whole) the information as you learn it. Reflecting on the information helps you gain a deeper understanding of the material and form connections between the new information and your prior knowledge. Getting actively involved in your learning is the first step toward succeeding in college. You'll learn many active learning strategies in the remainder of this text.

Become a Strategic Learner

Another way to succeed in college is to become a strategic learner. According to Weinstein and Hume, "*Strategic learners* are students who view studying and learning as a systematic process that is, to a good degree, under their control."⁵ Weinstein's model of strategic learning involves three main components: skill, will, and self-regulation.

Skill

Strategic learners possess a wide variety of skills that aid their learning. *Skill* refers to your knowledge about yourself as a learner, knowledge about different types of academic tasks, knowledge about strategies for learning, prior content knowledge, and knowledge about the contexts in which that knowledge could be useful.⁶ Let's look at the first three of these components briefly.

You already know many things about yourself as a learner. You know which subjects you excel in, which types of classes you like, and which types of assignments you do best. You know something about your ability as a student from your grades in high school or scores on standardized tests. However, you may not know much about your learning style—about how you learn best—and you probably aren't aware of many of the study and learning strategies that you'll need to use to be successful in college.

⁵Claire E. Weinstein and Laura M. Hume, *Study Strategies for Lifelong Learning* (Washington, DC: American Psychological Association, 1998).

⁶Claire E. Weinstein, "Strategic Learning/Strategic Teaching: Flip Sides of a Coin," in Pintrich, Brown, and Weinstein, Eds., *Student Motivation, Cognition, and Learning: Essays in Honor of Wilbert J. McKeachie* (Hillsdale, NJ: Lawrence Erlbaum, 1994).

After completing twelve years of formal schooling, you have a great deal of knowledge about completing academic tasks. You know how to do math problems, write a paper, and read a chapter in a textbook, just to name a few. However, some of the tasks that you'll be asked to complete in college are different from anything you've done before. You'll be expected to complete new tasks, to complete some tasks differently, and to develop and apply new learning strategies. You also will be expected to understand the material rather than just memorize it.

To achieve these goals, you must appropriately match new strategies to the task. That will help you successfully complete a variety of tasks, which will increase your self-efficacy. Believing that you can be successful can help motivate you to complete similar tasks in the future.

Will

Just knowing how to prepare for an exam or take lecture notes, though, is not enough. A strategic learner must have the will to put that knowledge into practice.

Will involves setting goals, selecting appropriate study strategies, and believing in your own ability and in the study strategies that you have chosen. Strategic learners are motivated—they are willing to work hard to achieve their goals.

Have you ever met a student who didn't do well in college? Most people assume that the students who fail or quit are those who can't do the work or don't have enough ability to succeed. However, most studies indicate that it is just as often the brightest students (as defined by test scores or academic histories) who do not succeed. Why does this happen? Look around your own classroom. You probably will notice that some students are absent. Not attending class, not doing reading assignments, not preparing for exams, and many other similar factors contribute to college failure.

Other students are very successful in college. What makes them succeed? For the most part, they are more motivated, spend more time on their work, have well-defined study and career goals, and have a positive attitude. You need to be willing to do what is necessary to be successful in college. Will is an equally important factor in college success.

Self-Regulation

Finally, strategic learners are self-regulated learners. They manage their time well, monitor their learning, evaluate the results of their effort, and approach learning in a systematic way.⁷ Self-regulated learners are actively involved in their own learning; they set goals, develop plans for achieving those goals, monitor their progress, and evaluate their results. Self-regulated learners are motivated learners. In fact, becoming a self-regulated learner can actually increase your motivation.

⁷Claire E. Weinstein and Laura M. Hume, *Study Strategies for Lifelong Learning* (Washington, DC: American Psychological Association, 1998).

To better understand the role of the self-regulated learner, we can use the example of a thermostat. A home thermostat regulates the temperature in the house or room by turning on or off the heating or cooling unit to bring the temperature in line with the preset desired temperature.⁸ In the summer, if the temperature goes up in the house, the thermostat turns the air-conditioning unit on to cool things down. In much the same way, a student sets a goal for a study task, selects strategies to use, and then monitors his or her progress toward that goal. If the outcome is not as expected, the student may go back and work on the material again or try a different approach. The goal setting (setting the thermostat), the monitoring (the thermostat checking the temperature), and the decision to stop or do more to achieve the goal (turning on or off the heating/cooling unit) are all parts of the self-regulatory process. To become a self-regulated learner, you need to plan before you begin a task, monitor your progress as you complete the task and after it is completed, and evaluate the results of your effort. In the next section, you'll learn more about how to become a self-regulated learner.

Become a Self-Regulated Learner

Do you set goals before you sit down to study? Do you decide when to work on a specific reading assignment? Do you break larger tasks down into smaller tasks? Do you pause when you're reading to check your understanding of the material? Do you ever close your book and realize that you can't remember what you just read? Do you quiz yourself before an exam to check your learning? As you read the remainder of this section, think about how you answered each of these questions. Your responses will help you determine whether you are a self-regulated learner.

Characteristics of Self-Regulated Learners

Self-regulated learners plan before starting a task, select strategies that they know are appropriate for the task, monitor their learning as they are completing the task and after the task is completed, and evaluate the results of their effort. Self-regulated learners know what they have to do to be successful. Because of this, self-regulated learners are generally more successful in college. They tend to be more motivated, have higher self-efficacy, and focus more on mastering the material than on getting grades. Self-regulated learners value the learning process itself and set mastery goals, which lead to the use of self-regulated learning strategies.⁹ They use more effective learning strategies and also tend to make adjustments when they are having

⁸Paul Pintrich, "Understanding Self-Regulated Learning," in *New Directions for Teaching and Learning*, no. 63 (San Francisco: Jossey-Bass, Fall 1995), p. 5.

⁹Anastasia S. Hagen and Claire Ellen Weinstein, "Achievement Goals, Self-Regulated Learning, and the Role of Classroom Context," in *New Directions for Teaching and Learning*, no. 63 (Jossey-Bass, San Francisco, Fall 1995), p. 43.

difficulty mastering material. Self-regulated learners realize that something is wrong and figure out how to fix the problem, often by selecting different strategies to use.

Self-regulated learners are self-directed rather than other directed. They are *independent learners*—they take the initiative for their own learning. In high school, your parents and teachers often took the responsibility for your learning; they made sure that you completed your assignments, reminded you to study for exams, and often felt responsible if you were not successful. Your teacher may have told you what to study, given you a review sheet to memorize, or reviewed all of the information the day before the test. College professors believe that you need to learn how to learn without your parents or your teachers telling you what to study, when to study, how to study, or even how long to study. You have to learn to do that on your own—you need to become an independent learner.

If you miss class, you are responsible for the material and the assignment. Don't expect your teaching assistant (TA) or professor to repeat the lecture for you privately at your convenience. If you fail a quiz or exam, you need to meet with your professor to talk about your performance. Don't expect your professor to call you in for the conference. Instead, you need to take the initiative and schedule the appointment. Your course instructors expect you to take the responsibility for your education. However, that doesn't mean you have to do everything on your own. Self-regulated learners know when they need to ask for help, and they know (or find out) how to get that help.

Stages of Self-Regulated Learning

A number of researchers have suggested various configurations for how the process of self-regulation works. Most agree that it is a cyclical process—each of the stages impact the others. All of these strategies involve *metacognition*—the ability to think about and control one's learning.¹⁰ Metacognition involves three types of awareness on the part of the learner. First, you must learn task awareness—you must learn to identify what information you have to study and learn in a particular situation. Second, you must learn strategy awareness—you need to determine which strategy or strategies will be the most effective for learning specific information, for preparing for different types of exams, and for using with different types of course material. Finally, you must learn performance awareness—you must learn to determine whether you have mastered the material that you previously identified as important, and how well you have learned it.¹¹ All of these types of awareness are essential for self-regulated learning. In this section, we'll look more closely at three stages of self-regulation: planning, monitoring, and evaluation.

¹⁰L. Baker and A. L. Brown, "Metacognitive Skills and Reading," in Pearson, Ed., *Handbook of Reading Research*, 2nd ed. (New York: Lawrence Erlbaum, 2002).

¹¹S. E. Wade and R. E. Reynolds, "Developing Metacognitive Awareness," *Journal of Reading*, 33 (1989): 6–14.

Planning. The first step in becoming a self-regulated learner is planning. *Planning* involves setting goals and designing plans that help you complete your work and turn it in on time. Planning involves two steps: a task appraisal and a task analysis. Before you begin working on one of your study tasks, you need to do a task appraisal. Think about how easy or difficult the task is, how important it is to you, and even how motivated you feel about working on and completing it. How you feel about completing the task will affect the goals you set, when you decide to begin the task, how long you work on it, and the strategies you choose to use.

Planning also involves doing a task analysis. During this stage, you need to think about what you have to do in order to complete the task. You might think about what you need to learn, when to work on the task, how long to spend on it, where to do it, and how much effort to put into it. A task analysis also involves deciding which strategies you want to use to work on the task.

Planning is important for all of your assignments, but it is essential for long-term projects. In order to write a term paper for a class, you need to consider many issues and plan ahead: When will you start the paper? What topic will you use? How long should the paper be? How many sources will you need to cite? How long will it take to identify the references that you will need? When do you want to have a rough draft ready? Will you use APA or MLA style for your citations? What mistakes did you make on your last paper? What criteria will your professor use to evaluate this paper?

How you answer these and other questions will determine how you work on the task. How much time you put into the task, how much effort you exert, and which strategies you decide to use will all depend on the goals that you set after you decide what you actually have to accomplish. Many of the topics discussed in this book will help you learn to plan more effectively.

Monitoring. Self-regulated learners also monitor their learning. *Monitoring* involves keeping tabs on your progress as you complete a task and after the task is completed. Thinking about how you are doing as you work on the task, asking yourself whether or not you understand what you just read, or thinking about whether the paper you just wrote is what the professor wanted are all examples of monitoring strategies.

Self-regulated learners monitor outcomes—they monitor their learning and the grades they earn. When you monitor outcomes, you are checking to see how successful you've been at completing the task. You might keep track of the grades you receive in your classes so that you can determine your current grade in the course and adjust your goal either up or down. As you prepare for an exam, you would monitor outcomes by checking to see what you do know and what you still need to learn. This can be accomplished by any number of self-testing strategies. Reciting the definitions of the technical terminology, taking online tests, answering the questions you wrote in the margin of your notes (see Chapter 5), and reciting the points in outlines you create for possible essay questions (see Chapter 12) are just a few ways to monitor your learning. Monitoring outcomes can be very motivating

because you can see that your hard work is paying off—you can tell that you are learning the information.

Self-regulated learners also monitor their processes—the strategies that they use. They want to know whether the strategies they selected for the task were effective. When preparing for an exam, for example, you might keep track of how long you studied, when you studied (how many days before the exam), whether you chose the right time of day to study, which strategies you used to study and learn the material, and whether studying alone or with a group was the most effective way to learn the material (see Chapters 4 and 10 for more information on test preparation strategies). When preparing for an exam, many students monitor their learning and their processes by simply thinking about whether they feel ready for the exam. Self-regulated learners, however, quiz themselves to monitor their learning and their strategies, because self-testing more accurately predicts how well you know the material.¹²

One advantage of monitoring your learning and your processes is that you can make adjustments along the way. If you find that you didn't get the correct answer to one or two of the math problems, you could go back and rework them, or you could ask for assistance from the professor, a tutor, or one of your classmates. If you found that you didn't know the answers to some of your predicted test questions, you could practice more. If you time yourself as you practice a speech, you might find that your speech is too long and decide to make some cuts to avoid a penalty for running over the time limit. Monitoring strategies provide you with information (feedback) about how you are progressing toward your goal (outcomes) and about how effectively your strategies are working. You'll learn to use many monitoring strategies as you work through this text. In fact, each chapter contains activities that help you learn how to monitor your learning and your processes. Monitoring your own learning is a key step in increasing your motivation and becoming a self-regulated learner.

Evaluation. Self-regulated learners evaluate their learning and the processes they use to achieve their goals. *Evaluation* involves making judgments about how well you accomplished what you set out to do. Deciding that you are prepared for a quiz, know your speech, or have written a good paper are examples of evaluating your work.

Evaluation involves making a judgment about how you think your performance matches your own standards of “good” work. This type of evaluation is called internal feedback. If you complete a task and are pleased with the outcome of your effort, you might decide that the strategies you chose for that task were effective and make a mental decision to use them again. On the other hand, if you complete a task and are disappointed in the outcome, you might decide to go back and redo a portion of the assignment using different strategies or decide that the next time you work on a similar task you will approach it differently.

¹²M. Van Blerkom and D. Van Blerkom, “Self-Monitoring Strategies Used by Developmental and Non-Developmental College Students,” *The Journal of College Reading and Learning*, 34(2) (Spring, 2004): 45–60.

You can also evaluate your performance based on feedback that you get from others. When your instructor grades your paper and/or comments on it, you're getting external feedback. That information provides you with more information on how well you completed the assignment. You can use that information then to make decisions about how to plan and monitor your own performance the next time you work on a similar task. You can also get external feedback before you turn in your work. Many students ask friends, family members, or classmates to look over a paper before they turn it in. In most cases, external feedback provides them with suggestions for making changes that will improve the paper.

USE LEARNING STYLES TO ENHANCE PERFORMANCE

Your learning style also affects your ability to succeed in college. Researchers in education and psychology have been investigating the issue of learning styles since the 1950s. In this section, you'll discover more about how you learn best, how to match learning strategies to specific tasks and subject areas, and how using your preferred and nonpreferred learning style will affect your performance in college.

What Are Learning Styles?

The term *learning style* refers to the preferred way that you acquire, process, and retain information—the way you learn best. Everyone learns new tasks in different ways; we each have our own style or preference for learning. The time of day you study, the kinds of strategies you use, whether you work alone or with a group, and even the place you study are all aspects of your learning style.

However, your learning style involves more than these factors. Researchers have explored the nature of learning styles in many different ways. Some relate learning style to cultural factors that affect the expectations that teachers, parents, and students have about learning in the classroom and at home. Others have investigated the relationship of learning styles to whether we are left-brained or right-brained learners (whether we tend to process information in a linear, analytical manner, like a computer, or in a more holistic, visual manner, like a kaleidoscope).¹³ Many learning styles are based on Kolb's theory that some people approach new situations through "feeling" and others through "thinking."

Characteristics of Learning Modalities

The Learning Style Inventory in Figure 1.5 is an informal inventory that can provide you with information about your preferred learning modality (learning through

¹³Sharon L. Silverman and Martha E. Casazza, *Learning and Development: Making Connections to Enhance Teaching* (Jossey-Bass, San Francisco: 2000).

FIGURE 1.5A

Learning Style Inventory

As you read each of the following statements, put a check mark for *yes* or *no* to indicate the response that describes you best.

	YES	NO
1. I remember things better if someone tells me about them than if I read about them.	_____	_____
2. I'd rather read about "tapping" (extracting the sap from) trees than take a field trip and actually tap a tree.	_____	_____
3. I'd rather watch a video of a news item on the Internet than read an article about it.	_____	_____
4. I'd rather build a model of a volcano than read an article about famous volcanoes.	_____	_____
5. When I'm having trouble understanding my text chapter, I find that reading it out loud helps improve my comprehension.	_____	_____
6. If I had to identify specific locations on a map for an exam, I would rather practice by drawing and labeling a map than by reciting the locations out loud.	_____	_____
7. I tend to better understand my professor's lecture when I read the text material ahead of time.	_____	_____
8. I would rather take part in a demonstration of how to use a new computer program than read a set of directions on its use.	_____	_____
9. If someone asked me to make a model for a class project, I would rather have someone explain how to make it than rely on written directions.	_____	_____
10. If I were preparing for an exam, I'd rather listen to a summary of the chapter than write my own summary.	_____	_____
11. I would prefer my professor to give me written directions rather than oral directions when I have to do a writing assignment.	_____	_____
12. I'd rather listen to the professor's lecture before I read the chapter.	_____	_____
13. If I had to learn to use a new software program, I'd prefer to read the written directions rather than have a friend describe how to use it.	_____	_____
14. If I have trouble understanding how to complete a writing assignment, I prefer to have written directions rather than have someone explain how to do it.	_____	_____
15. I like to listen to books on tape more than I like to read books.	_____	_____
16. When I have to learn spelling or vocabulary lists, I prefer to practice by reciting out loud rather than by writing the words over and over again.	_____	_____
17. If I had a choice, I would prefer to watch a video of someone else doing chemistry experiments rather than actually perform them myself.	_____	_____
18. When I have trouble with a math problem, I prefer to work through the sample problems rather than have someone tell me how to do them.	_____	_____

Note: A self-scoring version of this inventory is available on the *Orientation to College Learning* Web site (www.cengagebrain.com).

FIGURE 1.5B**Scoring
Instructions**

Your responses in both the *yes* and *no* columns are important for determining your preferred learning style. Tally your responses using the following scoring key and then use the chart to total your responses.

1. Circle your *yes* and *no* responses as they appear in the boxes below. Not all numbers will be circled.

Auditory	Visual	Kinesthetic
Yes: 1 3 5 9 10 12 15 16	Yes: 2 7 11 13 14 17	Yes: 4 6 8 18
No: 6 7 11 13 14 18	No: 1 3 4 5 8 9 12 15	No: 2 10 16 17

2. Then total your circled *yes* and *no* answers in the chart below.

	A (Auditory)	V (Visual)	K (Kinesthetic)
Number of <i>yes</i> responses			
Number of <i>no</i> responses			
Total points			
Cutoff score	8	8	5

3. Total your scores for each column.
4. Compare your total with the cutoff score.
5. If your score is equal to or higher than the cutoff score, then you show a preference for that style of learning. The higher your score is, the stronger your preference for that style of learning. You may find that you have high scores in two areas; that's okay. You may learn well using more than one learning style. Note: Your total points for the A, V, and K columns should add up to 18.

the senses). Are you a visual learner, an auditory learner, or a kinesthetic learner—or do you have preferences in two areas? Before reading any further, complete the Learning Style Inventory in Figure 1.5, or use the self-scoring version on the *Orientation to College Learning* Web site (<http://www.cengagebrain.com>). As you read through the following descriptions, you may find that you have some of the characteristics of each style. You probably do; we all have some characteristics of each of the three learning modes. As you discovered by completing the Learning Style Inventory, one of the styles is your preferred style for learning new information.

Visual Learners

If you found that you're a *visual learner*, you learn best by seeing things. Reading; looking at pictures, diagrams, and charts; and watching films, videos, and demonstrations are all ways that you can learn new information. You probably have found that you understand your professor's lecture better if you read the text chapter ahead of time. Note-taking strategies such as outlining, mapping, and charting, which will be discussed in Chapter 9, work well for visual learners. Think about how you study for exams. You probably reread your text, review your lecture notes, fill in study guides, or make study sheets. During an exam, you may be able to "see" the correct answer in your mind's eye. Many new strategies for visual learners can be found in Figure 1.6 and in Chapters 4 and 10. Check them out now if your current study methods aren't paying off.

Auditory Learners

If you're an *auditory learner*, you learn best by hearing information. Unlike the visual learner, you probably prefer to go to your class and listen to the lecture before you read the text chapter. Do you understand the text much more easily after you hear the professor's lecture? Reading difficult text passages out loud is also a good idea for the auditory learner. Discussing the course material, mumbling information as you read and study, asking someone to quiz you, and reciting the answers to self-test questions are some strategies that you may already use if your preferred learning style is auditory. You may find that you can actually "hear" the professor's lecture when you try to recall the specific point you need to answer a test question. Many new test-preparation and memory strategies that are designed for auditory learners are included in Figure 1.6 and Chapters 4 and 10.

Kinesthetic Learners

If you're a *kinesthetic learner*, you learn best by doing things. You prefer hands-on tasks that allow you to touch and feel. Try some of the strategies listed in Figure 1.6 now. Many of the strategies used by visual and auditory learners also appeal to kinesthetic learners. For example, in Chapter 9 you'll learn a strategy called *mapping*—creating visual diagrams or representations of written and oral information. Whereas the visual learner can recall the information from a concept map by seeing it, the kinesthetic learner will be able to remember it by the feel of how he or she created it. Kinesthetic learners also learn well from doing experiments, taking self-tests, or replicating the tasks they will later have to perform in the testing situation. Many auditory learners use flash cards to recite definitions or information about a topic. The kinesthetic learner learns by creating flash cards as well as from the action of self-testing. In Chapter 10, you'll learn how to create study sheets, design self-tests, and work problems in order to prepare for upcoming exams.

FIGURE 1.6

Active Learning Strategies for Visual, Auditory, and Kinesthetic Learners

Visual	Auditory	Kinesthetic
<ul style="list-style-type: none"> • Read and highlight your text. • Visualize pictures, charts, and diagrams. • Take modified-block notes. • Outline information. • Map information. • Create charts. • Read related material. • Edit your lecture notes. • Color code your notes and study sheets. • Write out steps in a process for solving math and science problems. • Create study sheets. • Write word and question cards. • Write self-test questions. • Write questions in the margin and underline the answers. • Create visual images to connect information to acronyms and acrostics. • Use the method of loci to recall information. • Take online tests. 	<ul style="list-style-type: none"> • Read difficult passages out loud. • Recite the main points at the end of every headed section of the text. • Explain information out loud. • Discuss the text assignment or lecture material with a study partner or study group. • Tape the lectures from your most difficult class and listen to them when you commute or do household chores. • Cover the details in your lecture notes and recite from the headings. • Recite out loud the answers to questions appearing in the margin or on word and question cards. • Teach the material to someone or something else. • Create a taped self-test and recite the answers before listening to the correct ones. • Explain the steps for solving math and science problems. • Create rhymes, poems, and songs to recall information. • Form a study group to discuss the material you're learning. • Recite the steps to follow from math problem cards. 	<ul style="list-style-type: none"> • Take notes as you read your text assignments. • Predict questions in the margin at the end of each headed section. • Create word, question, and problem cards and practice them in groups of 10 or 15. • Make up puzzles or games (like Jeopardy or the Match game) to learn text and lecture material. • Practice labeling diagrams, recreating maps, and filling in charts to learn information for exams. • Construct diagrams or models to practice science material. • Make up self-tests in the same format as the actual test and take them. • Participate in study groups and review sessions. • Work problems. • Take end-of-chapter tests to prepare for exams. • Develop acronyms and acrostics to recall information and practice using them. • Take online tests. • Create problem cards to practice for math and science exams.

The VARK

The VARK was developed by Neil Fleming and Charles Bonwell. By completing the VARK questionnaire online at www.vark-learn.com or following the link on the *Orientation to College Learning* Web site, you can find out more about how you learn best. The VARK helps you assess your preferred learning style by looking at four different modalities: Visual, Aural, Read/Write, and Kinesthetic. How did your results on the VARK compare with those from the Learning Style Inventory shown in Figure 1.5?

You'll find a wealth of information about the VARK on the VARK Web site. Follow the Helpsheets link to check out the lists (or maps) of study strategies for each modality. Print out the one that best fits your learning style, or print them all if you are multimodal.

If you are intrigued by some of the ways of looking at learning styles that were discussed earlier, go to your college learning center, counseling center, or testing center and ask to take a formal learning style inventory. Some of the more common ones (which are much too long and complex to include here) are the LSI (Kolb's Learning Style Inventory); the 4MAT System developed by Bernice McCarthy; the Learning Style Inventory by Dunn, Dunn, and Price; and the Myers-Briggs Type Indicator (MBTI).

Integrated Learning Styles

Although each of us has a preferred learning style, most of us learn information by using a combination of learning styles. In fact, some courses, assignments, or exams may require you to use one or more of your less preferred learning styles in order to complete the task. When you are required to complete a hands-on activity, for example, you may find that using a kinesthetic approach is more successful. Even though it's not your best way to learn *most* material, it is the best way to learn *that* material. Although my preferred learning style is visual (Read/Write on the VARK), I always call the computer help desk when I run into a problem with a computer program. The advantage for me is that the technical support personnel tell me how to fix my problem, and they stay on the line and assist me as I complete each of the steps on the computer. By using my two less-preferred learning styles together, I learn better than by using my preferred style. Of course, using a computer program is a hands-on task, so actually completing the task on the computer is the best way to learn to do it.

Using a combination of strategies will help you benefit from all the ways that you can learn information. As you learn about note-taking, text-reading, and test-preparation strategies in later chapters, keep your preferred learning style in mind. However, the most successful students are often those who can use strategies that take advantage of all of the ways they learn, or those who can switch styles depending on the demands of the course or the assignment.

Why Your Learning Style Is Important

Do you tend to do well in some classes but have difficulty in others? For instance, let's say you are taking history and biology this term. Given the same level of effort and time spent in preparation, you may think that you should do equally well in both courses. However, if you earned an A in history but got only a C in biology, you probably would feel frustrated and confused. Even though college biology probably is harder than high school biology, that may not be the reason for your poor performance. You may have more difficulty in college biology because the professor's teaching style did not match your learning style or because you didn't use the appropriate strategies when preparing the biology assignments. When nothing you do seems to work, you may begin to doubt your ability to succeed and your motivation may drop. Changing the way you approach the course material, assignments, or exams—changing to a more appropriate learning style—can increase your motivation and result in greater success. Take another look at the active learning strategies in Figure 1.6 and ask yourself: Which strategies from your learning style best match the task you are working on now?

MAKE THE TRANSITION TO LEARN

Attending college requires a certain amount of adjustment for most students. If you started college immediately after high school graduation, you'll experience many changes in your life. You may be on your own for the first time—you may have to take on many of the responsibilities that your parents or teachers previously handled. If you're a commuter or a nontraditional college student, you'll have to make adjustments, too. Although juggling work, school, and home responsibilities is a challenging task, many students do it every day. College life offers many exciting new experiences, and many students want to join in on the activities.

Balance School, Home, and Work Responsibilities

The U.S. Department of Education has predicted that by 2017, 40.8 percent of all students enrolled in institutions of higher education will be twenty-five years of age or older.¹⁴ If you work and/or have home responsibilities, you may need to attend on a part-time basis. Returning adult learners are often described as more motivated, more committed, more organized, more independent, and more self-directed than traditional students. Many of these qualities come from their greater maturity, wealth of life experiences, and strong motivation to succeed in college. Even so, many returning students have problems adjusting to college. They worry

¹⁴National Center for Education Statistics, "Projections of Education Statistics to 2017" (2009 report).

about feeling out of place, competing with traditional students, getting good grades, disappointing their families, finding time to get their schoolwork done, and maintaining their job and home responsibilities. Fortunately, you probably won't have to deal with all of these concerns, but most returning students do have to make adjustments in order to overcome some of these problems.

Accept New Responsibilities

If you just graduated from high school, you may have spent the summer before college learning how to sort, wash, and iron your clothing. Did you practice scheduling your time, budgeting your money, or setting priorities? These new responsibilities are critical to college success. Learning to set priorities is one of the most difficult tasks you will face. Everything seems so interesting, exciting, and new when you begin college. College life offers many opportunities to get involved in social, organizational, and sporting events. Although you should get involved in campus life, you need to start out slowly. Join one or two clubs instead of every club that your roommate or next-door neighbor joins. If you become too involved in campus activities, you won't have enough time to complete your academic tasks.

Improve Your Academic Standing

If this is your second or third term in college, you may be reading this text because you want to improve your academic standing. You may be highly motivated to change your status but unsure of how to accomplish your goal. Many of the strategies presented in this chapter and in the remainder of this text can help you improve your grade point average (GPA). One of the best strategies for getting off probation or achieving your GPA goal is to repeat courses in which you had low grades. If your college allows you to replace a D or F with the grade you get when you repeat a course, you'll see a significant change in your GPA. Another important strategy for improving your GPA is to take a light course load and get good grades in all of your courses. One advantage of a lighter load is that you can put more time and effort into each class. If you work or have other responsibilities, your time for study will be limited. If you take a heavy course load, you may find that you just don't have enough time to do all of your work to the best of your ability. This will lead to getting low grades in some classes, which will continue to drag your GPA down. As you begin this new term, think about where you want to be, not where you were. Your goal to be successful this term can jump start your motivation, and your motivation to succeed can help you achieve your goals. If you work hard and use effective strategies, you can improve your academic status.

Maintain Academic Honesty

Every college has a code of conduct for students, both inside and outside of the classroom. Students are expected to maintain a high level of honesty in the classroom

when taking quizzes and exams and outside of the classroom when completing assignments, papers, and projects. One part of that expectation is that you will neither give nor receive assistance unless directed to do so by your course instructor. That means that you are expected to do all of your work individually. Getting someone to proofread your paper is a good idea, but having someone write the paper for you is not. Most students understand that copying someone's work on an assignment or on a test is cheating; however, allowing someone to copy your work is also academically dishonest.

Many students unintentionally commit plagiarism when they write reports and research papers. *Plagiarism* is a difficult concept, but can be described as taking someone else's ideas or words and using them as if they were your own. The easiest way to avoid plagiarizing is to carefully document all of the information that you take from reference sources. Many students think that as long as they put the information into their own words, they don't have to cite (indicate the source of) the information. In most cases, even paraphrased information must be documented. The only time you really don't have to document reference material is in the case of common knowledge. Information that is included in every source or many sources that you referenced may be considered to be common knowledge. On the other hand, information that is contained in only one of your sources is considered to be the unique idea(s) of the author of that book or article. This information must be documented in order to give credit to the person who developed it.

Manage Stress

Attending college can be stressful for many students because they are forced to deal with so many new responsibilities, opportunities, challenges, and decisions. *Stress* can be described as feeling tense, overwhelmed, or under pressure. Unfortunately, stress can have a negative effect on your motivation. When you feel stressed out, it is hard to get motivated to do your work. However, identifying the causes of stress and learning some strategies for coping with it can help you manage your stress.

Sources of Stress

Many college students experience stress because they're concerned about their academic performance or they realize that their courses are much more demanding and fast paced than were their high school classes. Some students experience a great deal of stress about achieving the grade goals that they have set for themselves or that their families may expect them to achieve.

Lifestyle changes are another common source of stress for college students. Balancing work, home, and school responsibilities puts additional stress on students. Some students find that after they complete all of their class assignments, there is little time left for their families, friends, or themselves. At times, this leads to conflicts and may result in even more stress. Other students experience stress from

living on their own. Besides being responsible for managing their time and setting priorities (perhaps for the first time), they are trying to form new relationships while maintaining connections with their families and friends at home.

Many college students also experience stress due to personal problems. Many students spend a lot of time worrying about money, social relationships, family crises, or health problems, just to name a few concerns. All these personal problems add to the stress of academic and lifestyle changes that most students experience.

Methods of Coping with Stress

Although there are many positive ways to deal with stress, some college students use negative, nonproductive methods of dealing with it, such as ignoring the problem or pretending that it doesn't even exist. Others use escapist techniques such as watching television, playing video games, or even using drugs or alcohol. Although these strategies appear to eliminate feelings of stress for the moment, they don't bring about any productive resolution of the problem. There are, however, more positive and productive ways to cope with stress.

Take Action. One of the best ways to deal with stress is to take action to eliminate or reduce the stress itself. This may involve taking control of how you use your time. Making up a daily "To Do" list can reduce stress if you're worried about getting all of your work done on time. If you're stressed out about money problems, talk with someone in your campus financial aid office. Getting more information about how you can apply for scholarships, grants, and loans can help you reduce your stress. If you experience conflicts about family, work, and school responsibilities, it may be time to make a few changes. Delegating some of your responsibilities (at home or at work) may reduce your stress dramatically.

Seek Social Support. Just talking about your problem with someone else is often a good way to relieve stress. A friend, family member, or counselor may be able to provide some much-needed emotional support or suggest a way of dealing with the problem that you hadn't considered.

Your professor, advisor, or someone in your college learning center may be able to help you deal with your academic concerns. Sometimes the most effective method of reducing stress is to seek help from someone who *can* help.

Make the Most of Your College Resources

Many resources are available on your college campus to help you succeed. By familiarizing yourself with the various student support services, the library, and computer labs early in the term, you can improve your chances for college success. Your professors and your advisor are the first people you should contact if you have a question or a problem. If they can't help you personally, they'll know who can.

Student Support Services

Some students are reluctant to ask for help; they think that they should be able to solve all their problems on their own. Sometimes, though, asking for help is the right decision. If you are having a problem in one of your classes, make an appointment to discuss it with your teaching assistant or professor. Get a tutor if you're having difficulty understanding the course material or doing the homework assignments. Go to your college learning center if you're having difficulty with test preparation, note taking, reading your text, or test anxiety.

Tutorial Services

Most colleges now offer a variety of tutorial services. At some colleges, professional tutors are available to assist students in math, writing, and specific content areas. Other schools now offer either individual or group tutoring by upper-level students who have already successfully completed the course. If you only need assistance once in a while, many colleges now offer drop-in or walk-in assistance. Many colleges also offer supplemental instruction (SI) services for courses that are challenging and often have a high failure or withdrawal rate. Group SI sessions are open to all of the students who are enrolled in the course and typically meet one or two times a week. SI leaders provide assistance and answer questions during these sessions. Find out what kinds of tutorial assistance are offered at your institution and get help as soon as you need it.

Your College Library

Learning to use your college library or library system is another important step in achieving college success. After you take the library tour, go back several times to get acquainted with the resources that you may need to use. You may want to focus on using some of the reference materials. Set up an appointment with one of the reference librarians to learn more about using the various online indices, abstracts, and databases that you may be required to use when completing assignments for your courses. Knowing how to use these resources will save you a great deal of time when you're ready to do research for a paper or project.

Your Professors

College professors are different from your high school teachers, but they are neither inhuman nor superhuman. Although some college professors appear to be unapproachable in the classroom, they are often very different in less formal settings. At many colleges, graduate students teach or assist the professor in teaching the course. Even though teaching assistants may not be much older than their students, they should be approached in the same way as other professors. If you have questions about the course content or any of the assignments, schedule an appointment during your professor's office hours.

Your College Advisor

Most college students are assigned an advisor during their first year. Your advisor, generally a professor in your major field of study, is the person who will help you monitor your progress toward your degree. You are still the one responsible, however, for completing all the degree requirements. When you plan your schedule, your advisor will either approve your selections or make suggestions about alternative courses. Your advisor can also help you find out how to get help, find an internship, or explore career options.

SUMMARY

Many factors contribute to your college success. One of the most important, though, is your commitment to the academic demands of your course work. Getting motivated is critical. Many factors influence your motivation, but goals, self-efficacy, and effort have the greatest impact on academic motivation. Understanding more about how your level of motivation affects your performance, and why some students lose their motivation, can help you be more motivated. Using strategies to increase your motivation can make a difference. Becoming an active, strategic, self-regulated, and independent learner will help you succeed. Using strategies to plan, monitor, and evaluate your learning will help you achieve your goals and increase your motivation and success in college. Determining your learning style—how you learn best—will help you learn to select the appropriate study strategies to use for each of the study tasks you will need to complete. Attending college involves making many transitions and taking on new responsibilities. If you're a nontraditional student, balancing your commitments at work, home, and school may be your most challenging task during your first year in college. If you're a traditional student, you'll have to learn to set priorities, balance a budget, and accept responsibility for your own learning. Many new college students experience stress during this transitional period; that's normal. However, too much stress can be harmful. Your friends, your family, and the faculty and staff on your campus can help you deal effectively with both personal and academic problems. During your first week in college, locate the various offices and services that are available to help you succeed. Get to know your professors, your advisor, and other support people personally—they are all there to help you succeed in college.

ACTIVITIES



1. List three academic tasks (not the ones you listed earlier) that you worked on recently. On a scale of 1 to 10 (with 1 being very little effort and 10 being a great deal of effort), how would you rate the amount of effort you put into each task? Discuss the results with a group of your classmates. Talk about the tasks you rated and why you may have had difficulty getting motivated or staying motivated when completing them. What strategies did you use to complete your work? Which strategies presented in this chapter may have been more effective? Why?



2. Why aren't you more motivated? Select one of the reasons that you checked in Figure 1.2. Write a paragraph explaining the motivation problem that you experienced. Discuss

the specific class or task that caused your motivation problem. Why weren't you more motivated? What could you or your professor have done differently to increase your level of motivation?



3. Make a list of at least ten strategies that college students need to use to be successful. Then share your ideas with a group of your classmates. As a group, select the ten strategies or activities that are most representative of successful students. Think about how many of the strategies you currently use and select three that you plan to use this term to increase your success.



4. Jot down a list of strategies that you use to complete some of your study tasks. Then work with a group of your classmates to generate a list of twelve strategies that would be used by self-regulated learners. Label each strategy P (Planning), M (Monitoring), or E (Evaluating). Be sure you have strategies from each group on your list.



5. Complete the Learning Style Inventory in Figure 1.5A or use the self-scoring inventory on the *Orientation to College Learning* Web site. As you read each statement, check *yes* or *no* to indicate the response that describes you best. Then use the information in Figure 1.5B to determine your preferred learning style. Then complete the VARK questionnaire and compare your results.



6. Find out more about what kind of learner you are by taking the quiz at the Personality Type Web site. (Use the link on the *Orientation to College Learning* Web site.) This interactive quiz, based on the MBTI, is short, easy, and self-scoring. After identifying your type, be sure to take some time to explore the information available on the Web site.



7. Select one of these topics: becoming an active learner, becoming a strategic learner, becoming a self-regulated learner, becoming an independent learner, or becoming a motivated learner. Jot down, in two minutes, the strategies used by that type of learner. Then go find another student in the class who chose the same topic and compare your lists. Add or delete any items to form a group list. Write your group list on the chalkboard or share it with the class. Choose one or two strategies to use this week.



8. Why do you think students experience stress in college? List five to ten reasons. Think about how you would deal with each of these situations and then get together with your group to discuss your responses. What were the five most common reasons that students experience stress? What suggestions did your group have for reducing that stress?



9. What's your motivation for going to college? Make a list of ten reasons that you want to earn a college degree. Then rank your reasons from most important to least important. Post it on your bulletin board or on the refrigerator at home. Every time you're having trouble getting motivated to go to class, do an assignment, or study for an exam, read through your list and find your motivation to make the time and effort to succeed.



10. Now that you've completed Chapter 1, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW



Terms You Should Know: Take the matching test located on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.



Completion: Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. Working on a goal to earn a good grade is an example of _____ motivation.
2. Goals that involve learning the material are called _____ goals.
3. Strategic learners are students who view studying and learning as a _____ process that is, to a good degree, under their control.
4. Motivation leads to increased _____, which leads to success.
5. Taking a _____ course load during your first term or first year can help make the transition to college easier.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. Students who choose easy tasks that lead to success or difficult tasks so they have an excuse for failure generally are motivated by what type of motivation?
 - A. Mastery goals
 - B. Performance-approach goals
 - C. Performance-avoidance goals
 - D. Self-efficacy goals
7. A kinesthetic learner learns best by
 - A. reading.
 - B. listening.
 - C. doing.
 - D. integrating all three learning modalities.

Short Answer/Essay: On a separate sheet, answer each of the following questions:

8. What are the three factors that influence motivation? Describe each briefly.
9. Describe the three components of self-regulated learning.
10. Describe three ways to increase your motivation.



Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Goal Setting

CHAPTER

2



"Goal setting has helped me in a number of ways. I have found that setting goals for myself creates a sense of excitement. I know that if I set my mind to accomplish something, I can. This has been especially helpful in planning long-term goals. I have a sense of knowing that I will accomplish those goals no matter what obstacles may come into view."

Maria Mardis, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Academic goals
Action plan
Action tasks
Career goals

Goals
Long-term goals
Personal goals
Proximal goals

Self-assessment
Short-term goals
Study goals

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Have you decided what grade point average (GPA) you want to achieve this semester?	_____	_____
2. Have you decided what grade you want to get in each of your courses?	_____	_____
3. Have you written down the grade that you want to get in each of your courses?	_____	_____
4. Are the goals that you set for your courses attainable?	_____	_____
5. Do you use words like <i>try</i> and <i>hope</i> when you describe your goals?	_____	_____
6. Have you thought about careers that you might want to pursue?	_____	_____
7. Do you set daily study goals?	_____	_____
8. Do you tend to achieve the goals that you set?	_____	_____
9. Do you tend to give up if you don't achieve your goals?	_____	_____
10. Do you revise your goals during the semester?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to all questions except 5 and 9, and 1 point for each *no* answer to questions 5 and 9. Total up your points. A low score (0–4) indicates that you need some help in setting goals. A score of 5 to 7 indicates that you are effectively setting goals in some areas but not in others. A high score (8–10) indicates that you are using effective goal-setting strategies. What did you learn about yourself by completing this activity?

WHAT ARE GOALS?

Goals are the ends toward which you direct your effort. In other words, goals are things you want to achieve, things you aim for as you pursue a certain course of action. Goals provide the motive for the effort that you expend when completing a task. Without goals there would be no effort. You can improve your academic performance in college by learning to set goals that motivate you to do well and that increase your chances for success.

Why Are Goals Important?

Goals are important in college because they help motivate you to attend classes, do your work, and study for exams. Without goals, you might not get out of bed to go to class; you might play video games all day instead of completing your assignments; or you might decide to go to a party rather than prepare for an exam. Of course, even in those cases, goals were driving your actions—just not toward any of your academic tasks. By setting goals, you can make decisions about how to spend your day. You can decide what to do, when to do it, how to do it, and even how hard to work on it.

Although you need motivation to achieve your goals, goals can also help you increase your level of motivation. How you set goals has an impact on whether they will motivate you. For example, research studies have shown that setting specific goals is more motivating than setting vague goals. When you know exactly what you want to accomplish, you'll be more motivated to complete the task. Short-term goals are also more motivating than long-term goals because they can be more easily achieved.

Goal Setting and Motivation

Achieving your goals also increases your motivation. Each time you achieve one of your goals, there are two important outcomes: You experience a sense of accomplishment and you increase your self-efficacy (your belief that you can successfully complete the task). As a result, you will have higher motivation to complete similar tasks in the future. Pintrich and Shunk, who conduct research studies on motivation, goals, and self-regulation, found that “when students attain their learning goals, goal attainment conveys to them that they possess the requisite capabilities for learning.”¹ In other words, each time you achieve one of your learning goals, you reinforce in yourself the knowledge that you are capable of learning. These beliefs then motivate you to set new, challenging goals.²

¹P. Pintrich and D. Shunk, *Motivation in Education: Theory, Research, and Applications* (Prentice Hall: Englewood Cliffs, NJ, 1996), p. 6.

²Ibid.

Goal Setting Improves Performance

You learned in Chapter 1 that setting goals increases your motivation and that being motivated improves your performance. You may be asking, how does that actually happen? According to Locke and Latham, who do research on goal setting, there are four main reasons to explain the process.³

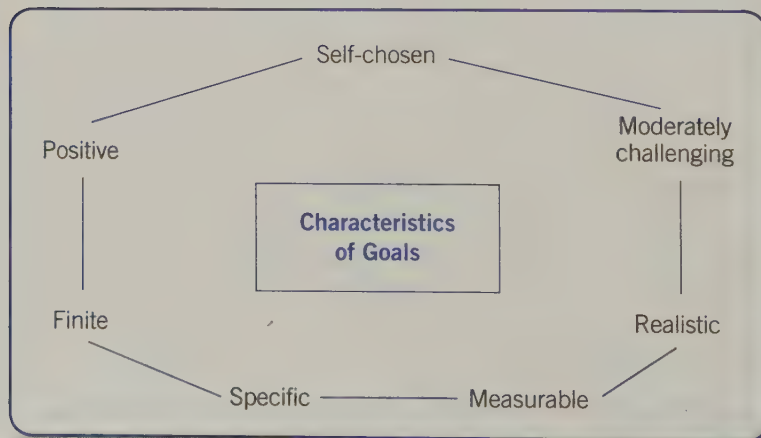
- **Goals direct your attention to the task at hand.** Goals keep you working on an assignment and direct you back to it if you begin to think about something else or are distracted.
- **Goals mobilize effort.** Goals motivate you to work hard (to increase your effort) in order to complete the task.
- **Goals increase persistence.** Goals help you continue to work on the task (persevere) even when the task becomes difficult.
- **Goals promote the development of new strategies when old strategies fall short.** Goals help you monitor (keep track of and evaluate) the effectiveness of the strategy or strategies that you are using to complete the task. Goals can help you determine whether the strategy is working, and, if it isn't, goals can motivate you to select another strategy to use.

Characteristics of Goals

To be both useful and motivating, the goals you set must have some important characteristics. Your goals should be self-chosen, moderately challenging, realistic, measurable, specific, finite, and positive (see Figure 2.1).

FIGURE 2.1

Characteristics of Goals



³E. A. Locke and G. P. Latham, *A Theory of Goal Setting and Task Performance* (Englewood Cliffs, NJ: Prentice Hall, 1990).

1. **Goals should be self-chosen.** Goals that are set by your parents, teachers, or friends may not always work for you. You need to determine or choose your own goals; you need to decide what you want to accomplish. If you set your own goals, you will be more motivated to achieve them.
2. **Goals should be moderately challenging.** You probably were told to set high or even exceptionally high goals for yourself in college; you may have been told to “shoot for the stars” or “go for straight As.” In fact, this may not be the best advice. If your goal is to achieve all As during your first semester in college, you may be disappointed. As soon as you “lose your A” in one class, you may feel that you failed to achieve your goal and be tempted to give up.

One way to set moderately challenging goals is to consider what you have done in the past. Of course, everyone is different, but high school grades are fairly good predictors of college success. Why were you successful in some classes yet unsuccessful in others? You may have been more motivated, so you may have worked harder. Of course, if you didn’t work very hard in high school, you can do better in college if you choose to apply yourself; increased effort can make a difference. Even so, you should set moderately challenging goals that will require you to achieve more than you did before but will not place undue pressure on you.

3. **Goals should be realistic.** Think about whether your goals are attainable. It would be unrealistic to expect to get a B or better in Calculus if your math background is very weak and your high school grades in math were never higher than a C. To set realistic goals, you must carefully evaluate your chances of achieving each goal. Using the Five-Step Approach to setting goals (discussed later in this chapter) can help you make this decision.
4. **Goals should be measurable.** A goal is measurable if you can determine whether you reached it. It would be difficult to determine whether you achieved your goal if you just wanted to “do well in a course.” How can you measure that? What does “well” really mean? It undoubtedly means different things to different people. It would be much easier to measure your success if you had aimed for an A or a B. At the end of the semester, you should be able to look at your final grade in a course and at the grade you set as your goal and evaluate your effort.

Goals for specific study sessions need to be measurable, too. Studying chemistry is not a measurable goal. “I will read pages 12 to 22 in my chemistry text and work all the sample problems” is a good example of a measurable goal statement. At the end of your study session, you’ll be able to determine whether you did what you planned to do.

5. **Goals should be specific.** The more specific your goals are, the more motivated you’ll be to achieve them. Getting a B+ in College Algebra is a specific goal; getting a “good grade” in College Algebra is not. Study goals should be specific, too. The goal “I’ll do my homework at 7:00” is rather vague. It’s

important to think of your homework as a series of individual assignments. You need to write separate goals for each of your assignments. A more specific goal statement is, “I’ll do problems 1 to 20 in my chemistry text (page 54) at 7:00 on Tuesday.”

6. **Goals should be finite.** Goals need to have a limited time frame. You just learned that you need to set a specific time to start a study goal. You need to set a specific time to complete your goals, too. Setting deadlines to complete your study goals seems rather obvious. If a paper is due by Friday, you need to have it done by Friday. However, you might decide to have the paper done by Wednesday so that you can prepare for your big biology exam on Friday. You might also want to set intermediate deadlines to complete different parts of a task. Without a deadline, many students tend to put off starting, working on, and completing their tasks. As you’ll see in the next chapter, setting deadlines is also an important time management tool.
7. **Goals should be positive.** Negative goal statements tend to make you feel that you can’t really succeed; they aren’t motivating. “I don’t want to get any lower than a C in any of my classes,” “I won’t go to dinner until I get this Calculus work done,” and “I’m not going to fail this test” are all examples of negative goal statements. You’ll always do better if you are working toward something—when you have a positive attitude.

Also avoid using words like *try*, *think*, *hope*, and *should* when you describe your goals. What’s wrong with including those kinds of words? You’re right if you said that they offer “a way out.” If you state your goal this way: “I’m going to *try* to write my sociology essay tonight,” and later push your paper away unfinished, you may say to yourself, “Well, I did *try*.” Positive goals that emphasize success help motivate you to get your work done.

Long- and Short-Term Goals

Most students have long-term goals in mind when they enter college. Even if you don’t know exactly what major you want to pursue, you have probably thought about getting a degree and getting a job. You may even know what field interests you most. Long-term goals are helpful to your success in college because they give you direction. *Long-term goals* are the objectives you set for yourself for the end of the year, for four or five years from now, or even for a lifetime. However, there are times when long-term goals can seem awfully far in the future. That’s where short-term goals can help. *Short-term goals*, also known as *proximal goals*, can be set for an hour from now, for the end of the day, week, month, or semester. Completing a reading assignment, writing an essay, getting a B in a course, getting off probation, or making the Dean’s List are all examples of short-term goals. Think of your short-term goals as steps toward achieving the long-term goals you’ve set for

yourself. By accomplishing daily, weekly, and semester goals, you move closer to your long-range academic, personal, and career goals.

Academic, Personal, and Career Goals

In college it's important to balance your academic, personal, and career goals. *Academic goals* relate to your course work. They include things like going to class, completing assignments, and preparing for exams. Your academic goals should be your highest priority in college. To achieve your academic goals, you need to learn to set study goals, too. *Study goals* can be defined as the objectives you want to achieve during a particular study session. During a study session, you might complete a reading assignment, begin work on a term paper, or prepare for an exam.

Personal goals, like making new friends, participating in clubs or sporting events, exercising, or even doing your laundry, are important, too. However, if you allow yourself to focus only on your personal goals, you may find that you have little time left for study.

Career goals are long-term goals that guide you toward the type of work you want to pursue after graduation. Doing well in college now can help you achieve those goals. Think about what you want to do five years from now, or even ten years after that. What are your aspirations for the future? Later in this chapter, you'll have an opportunity to explore your career goals. For now, though, remember that career goals can motivate you to achieve both your academic and your personal goals.

SET GOALS FOR THE NEW SEMESTER

The most important time to set your goals and start using specific strategies for achieving them is during the first three weeks of the semester. Setting new goals often involves making changes. You need to be willing to change the way you do some things to achieve your goals. If you make academics your first priority and get off to a good start in each of your classes, you'll find you'll continue to do well throughout the semester. Some of the strategies that will help you achieve the academic goals you set include: being open to change, setting priorities, planning for early success, learning to calculate your GPA, and revising your goals periodically.

Be Open to Change

Throughout this text you'll be introduced to a wide variety of new learning and study strategies. Although it's important for you to learn how and when to use these strategies, you also need to apply the strategies to your own course work both

in and out of class. Some students welcome the opportunity to learn new study strategies, but others find the idea of changing the way they study and learn to be somewhat threatening.

Reasons Students Are Reluctant to Make Changes

Some students are reluctant to make changes. Are you? Prochaska and Prochaska suggest four reasons that people have difficulty changing their behavior: (1) They believe they can't change, (2) they don't want to change, (3) they don't know what to change, and (4) they don't know how to change.⁴ I've also discovered from my own students that there are other reasons that students are reluctant to make changes, especially academic changes. These reasons are: (1) they don't think the change will help, (2) they don't use the strategies correctly, and (3) they don't achieve success immediately. Let's take a closer look at each of these reasons.

They Believe they Can't Change. Some students actually believe that they cannot change the way they do things. Some of them say things like, "I've always been a C student," or "I can't do it any other way; that's the way I am." In many cases that belief actually makes students more reluctant to try new strategies, perhaps because they don't believe that anything will make a difference in their performance.

They Don't Want to Change. Some students have a hard time changing the way they do things—they like keeping things the same. A few years ago I had a student named Jeff in my class. He told me that he had failed his first Psychology exam and was upset about his grade. He asked me for some specific suggestions for how he should study for the exam. I spent some time talking with him and suggested that he start studying by making flash cards for all of the terms, predicting test questions, and self-testing with both. A few weeks later, Jeff came to class and told me that he had failed his second exam. I was surprised that he had done so poorly and asked him how many of his word cards and questions had appeared on the exam. He replied that he hadn't made any cards and hadn't predicted any questions. When I asked him why he hadn't used those strategies, he responded that he felt comfortable studying his way. I tried one more time to explain why he needed to change the way he studied but he seemed unwilling to do anything other than read over the material three more times. He kept saying that he liked doing it his way. I finally said (rather loudly), "But your way isn't working, is it?" Finally, I promised him that if he would just try this new way to study one time, I'd never bug him again. He probably saw that as a way to get me off his back, so he did agree to try the strategies. Several weeks later, Jeff came to class very proud to report that he had gotten

⁴J. O. Prochaska and J. M. Prochaska, "Why Don't Continents Move? Why Don't People Change?" *Journal of Psychotherapy Integration*, 9 (1) (1999): 83–102.

an A on his third Psychology exam. With a sheepish grin, he admitted that my suggestions did help. From that point on, Jeff was willing to try new strategies.

When your old ways of doing things aren't working, even though they are familiar and comfortable, you need to be willing to try something else.

They Don't Know What to Change. Many students start college studying the same way they did in high school. They use methods that worked just fine at that time, only to find that they don't work for their college exams. These students are often very frustrated because they don't know what to do differently. They don't know what they are doing that is working and what they are doing that isn't working.

They Don't Know How to Change. Many students know that their study methods aren't working. They may even realize that reading over their notes three times, or reading the chapter six times, didn't help them answer the exam questions. They don't know, though, how to do it differently, so they don't make any changes. They haven't been taught or haven't discovered on their own other more effective ways to learn the material.

They Don't Think the Change Will Help. Some students are reluctant to try new strategies because they don't think they will work. They may be feeling that it's not worth their time or their effort to use a different strategy, because the outcome won't be any different. When students know that something will work, they are more willing to try it. Are you? When you aren't sure a strategy will work, you may not be motivated enough to spend the time and effort to use it.

They Don't Use the Strategies Correctly. Some students are willing to try a new study strategy once to see if it will work. Whether they ever use it again seems to depend on many factors. One of them is whether the strategy worked. Perhaps you've had this same experience. Susan decided to make up question cards to prepare for one of her exams. She came to my office to tell me that the strategy just didn't work and she didn't plan to use it again. When I asked her why she felt that way, she told me that she had failed her exam. I asked her how many question cards she had prepared, and was shocked when she told me she had made 200 question cards. That certainly seemed like a sufficient number of cards to prepare for a test on four chapters. I then asked Susan how many times she had practiced answering her questions. She responded that she didn't have time to practice them; it had taken her right up to the test time to make them out. I tried to explain to Susan that she had only used the first part of the strategy, and that she also had to practice answering the questions until she knew them all.

They Don't Achieve Success Immediately. Some students are reluctant to continue using a new strategy when they don't achieve their goals on the first try. A student,

Leroy, had earned an F on his first exam in History and decided to use the Five-Day Study Plan (you'll learn about that in Chapter 10) to prepare for his next exam. He decided that using that strategy should help him earn a B on the exam, and he worked hard to get that B. When he got his exam back, he was disappointed with his grade and told me that the strategy didn't work and he wouldn't use it again. When I asked why he felt that way, he told me he had only gotten a 79 percent on the test—a C. I asked him what grade he needed to earn a B, and he said an 80 percent. He didn't seem to realize that he had earned a high C instead of an F, or that he was only 1 point from a B.

Change Takes Time

Learning new strategies will help you achieve your goals, but change does take time. Not all of the strategies presented in this text or in your class are going to work for you. That's why you need to try each one and find the ones that work for you. As you experiment with the various strategies, keep track of your progress. If you don't reach your goal the first time you try a new strategy, don't give up on it. You may need to practice using the strategy a few times until you master it; or you may need to check with your professor to make sure that you're using it correctly. You may find that making even a small change in the way you're using a strategy will help you be more successful. When you see how the changes you make (over a period of weeks) improve your performance, you'll be more open to make other changes.

Set Priorities for the First Three Weeks

If you make academic goals your top priority for the first three weeks, you'll practically ensure success. Many students think that the first few weeks of a new semester are a breeze; typically, there are no exams, and often there are few papers, projects, or presentations. What you do during those first few weeks, though, often affects your performance during the rest of the semester. If you start doing your reading and other assignments right from the beginning, getting your work done will become a habit. In the same way, attending classes and meeting with study groups and tutors will also become part of your daily routine. Another real advantage of working hard right from the start is not falling behind in your work. If you don't keep up with your assignments, you may never catch up before your first round of exams and you won't be properly prepared for them. On the other hand, if you work hard during the first three weeks, you'll be able to find out early if your strategies are working. If they aren't, you can make changes before your exams. By working especially hard at the beginning of the semester, you also learn to make your academic goals your top priority.

Plan for Early Success

Another way to get off to the right start is to plan for early success. Earning an A or a B on the first quiz or first homework assignment should be one of your short-term goals. Once you get an A or B on one of your quizzes or assignments, you won't want to lose it. That first A or B lets you know you can do the work—thus increasing your self-efficacy. Your early success lets you know that by attending all your classes and working hard, you can succeed. That motivates you to keep working hard in all your classes. Early success leads to more success because:

- Success increases motivation.
- Success builds self-efficacy.
- Success lets you know that your strategies are working.

The Tip Block on page 46 lists ten tips that should help you get off to the right start this semester. Read through the list now and put a check mark (✓) in the box next to the tips that you use already. Put a star (*) in the box next to the tips that you want to use.

Plan Rewards

When you think about achieving your goals, a ten- or fifteen-week semester can seem like a long time to wait. Unfortunately, there aren't many "warm fuzzies" or immediate rewards in college. You may not get a grade on an assignment until the fourth or even the seventh week of the semester. You also may find that you miss that pat on the back or verbal recognition that you got in high school. It can be hard to stay motivated when no one is "telling you" that all your hard work is paying off, so you need to begin to reward yourself. Establish a method for rewarding yourself for knowing the answers to the questions that the professor asks in class, for being able to explain the solution to a problem, or even for being up to date on your reading assignments. If no one else is there to give you that pat on the back, give it to yourself.

Consider Consequences

If using rewards isn't helping you achieve your short-term goals, you may need to consider seriously the consequences of your actions. Think about how not achieving one or two of your short-term goals might affect the successful completion of your long-term goals. You learned earlier in the chapter that each of your goals is made up of a series of steps or smaller short-term goals. If you leave out one or two of those steps, you may not be able to complete the larger task. Consider the steps to achieving your goal as rungs of a ladder. If you eliminate too many or even one at a critical location, you may never get to the top: Each step is crucial for achieving success.



Ten Tips to Get Off to the Right Start This Semester

☐ **Be selective in choosing classes.** Choose courses your first semester that will help you build the skills you need to succeed in college or entry-level courses in your major. Taking a class you find interesting is another good way to start out. Your advisor will help you select appropriate courses.

☐ **Go to all classes and take notes.** Your goal is to write down as much information as you can. Four weeks from now, you won't remember much of what you heard today. Edit your notes within twenty-four hours to organize and expand on the information.

☐ **Keep up with your reading assignments.** Break down long reading assignments into more manageable units of about seven to ten pages. Read ten pages, then switch to another subject. Take a short break; then go back and read ten more pages. Remember to carefully highlight your text or take notes as you read.

☐ **Learn to say no.** While you're attending college, you don't have time for many outside activities. You may find that working, taking care of yourself and your family, and going to school is all you can handle. When you do say no, explain that when you complete your education, you'll be happy to help out.

☐ **Create a good study environment.** Find a quiet place to study. If studying in your dorm room

or at the kitchen table is too distracting, find another place to do your work.

☐ **Set realistic grade goals.** Although many students are very successful in college, they don't get all As their first semester. Earning a B or a C your first semester (or any semester) is fine. Consider what you can accomplish in each of your courses.

☐ **Study for exams by writing and reciting out loud.** You won't learn the information by just reading it over and over. Writing and reciting are active strategies that help you learn the information.

☐ **Learn to predict exam questions.** This is important for all exams, but it is critical for essay exams. After you predict five to ten possible questions, plan the answers, and learn the main points before the exam.

☐ **When taking exams, relax, and be sure to read the directions.** Answer the easiest questions first, skipping the ones that you don't immediately know. Then go back and complete the ones that you skipped.

☐ **Go to your college learning center when you need help.** Don't wait until it's too late. Stop in to talk about any classes in which you're having difficulty. Getting suggestions on how to study or signing up for tutoring can improve your grades dramatically.

Learn How to Calculate Your GPA

To achieve your grade goals this semester, you need to consider how the grade you earn in each course contributes to your overall grade point average (GPA). Learning how to calculate your GPA will help you set better goals for the new semester. Decide on the overall GPA that you want for the semester and then work backward

FIGURE 2.2John's GPA
Calculation Chart

John's Grades				
Course	Grade	Numerical Value	Credits	Grade Points
Sociology	B	3.0	3	9.0
English	C	2.0	3	6.0
Algebra	A	4.0	3	12.0
Chemistry	B	3.0	4	12.0
Phys. Ed.	A	4.0	1	4.0
			14	43.0 = 3.07 GPA

in order to set your individual course goals. For example, let's say you decided to aim for a 2.75 for the semester. You could achieve that average in a number of ways. You could have one A (4.0), one B (3.0), and two Cs (2.0) and get a 2.75. You could also earn a 2.75 for the semester by getting three Bs and one C.

In order to calculate your GPA, you need to calculate the grade points that you earn in each of your courses. Grade points are determined by multiplying the grade's numerical value by the number of credits assigned to the course. An A in a one-credit class is worth 4 grade points, whereas a C in a four-credit course is worth 8 grade points. It appears here that the C is worth more, but it's not—you have to divide your total grade points by your total credits in order to determine your GPA. (If your college doesn't use the same numerical values for grades, adjust the table accordingly.) Look at the example in Figure 2.2.

In order to determine his GPA, John listed each of his courses, the grades he earned, and their numerical values. He then listed the credit value for each course and multiplied that by the numerical value of the grade to determine the grade points for each course. After calculating the grade points for each course, he added up his total credits and his total grade points. The final step is to divide the total grade points (43) by the total credits (14). John earned a 3.07 for the semester. If John had used this method at the beginning of the semester to predict his grades, he would have had the opportunity to decide whether a 3.07 was a satisfactory goal for the semester. If he had decided that he wanted to earn a higher GPA, he could have gone back and recalculated his GPA by changing one or more of the grades in order to reach his goal. If John's goal had been a GPA of 3.25, he might have decided that he had to earn a B instead of a C in English. This would have improved his grade point total to 46 points, while his credit total would have stayed the same at 14. His new GPA would have been 3.285.

Revise Your Goals Periodically

It's important to rethink your goals at some point during the semester. Some students tend to play it safe and set unrealistically low goals for themselves at the beginning of the semester. It may seem like a good idea to set safe goals; that way you always are successful at what you set out to do. However, safe goals can also hold you back because they don't challenge you to achieve all that you might be able to achieve. Some students have the opposite tendency; they set goals that may be completely unattainable. By doing this, they are setting themselves up for failure and disappointment.

Remember, goals should be moderately challenging; they should be just a little out of reach so that you can work toward them. How can you find just the right level of challenge? You can't, at first. Once you gain some experience in college, however, you'll become much better at knowing what you can achieve. Until then, you need to revise your goals as you gather more information about your skills and your performance. Of course, you could change your goals, raise them or lower them, at almost any time during the semester. However, the best time to review your grade goals is after the first exam. If you decided to work for a B in College Algebra but got a high A on the first exam, you should revise your goal upward. Your first exam demonstrated that you're capable of doing A work and consequently capable of getting an A in Algebra.

Many students continue to improve in courses after the first exam, so you need to review your goals again after the second, third, or even fourth exam. In general, you should sit down and really think about where you are and where you want to be after the first round of exams, after midterms, and about two weeks before final exams.

WRITE EFFECTIVE GOAL STATEMENTS

By putting your goals in writing, you increase the probability that you will actually accomplish them. However, another factor that affects your success is how you formulate your goal statements. You can write down the first thing that comes to mind, or you can spend some time and explore each of your goals by using the Five-Step Approach to goal setting. Developing and implementing an action plan for each of your goals can also help you achieve them.

Use the Five-Step Approach

Writing effective goal statements isn't as easy as it sounds. You need to consider what you want to accomplish, any obstacles that could prevent you from achieving your

FIGURE 2.3

Tomi's Five-Step
Approach to
Setting Goals

COURSE: <u>Biology</u>	
STEP 1: Tentative Goal Statement <u>I want at least a B in Biology.</u>	
STEP 2: List of Obstacles	STEP 3: List of Resources
1. <u>There is a ton of reading, and I usually put it off.</u>	1. <u>I will set up a schedule to read 15 pages each night.</u>
2. <u>I have trouble following the lecture, and I struggle to take notes.</u>	2. <u>I'll read the chapter before the lecture. I'll rewrite my notes afterward.</u>
3. <u>Class would be easy to skip because it's in the auditorium and attendance isn't taken.</u>	3. <u>I can't afford to miss class. I'll go from my 8:00 class directly to Biology at 9:00.</u>
4. <u>The book is very hard to read and understand.</u>	4. <u>I'll highlight and take notes as I read.</u>
5. <u>The class is so big that I am easily distracted.</u>	5. <u>I'll read Chapter 6 on Concentration early and sit up front.</u>
6. <u>The subject matter is very difficult for me.</u>	6. <u>I'll get a tutor in the learning assistance center.</u>
STEP 4: List Your Motivation <u>Biology is my major and I need to do well.</u>	
STEP 5: Revised Goal Statement <u>I will achieve a B in Biology this semester.</u>	

goal, and the resources available to you. You then need to think about your motivation and revise your goal statement as necessary. Because each of your courses has different requirements, you must consider each course separately. If you're taking five courses, you must go through this process five times. See Figure 2.3 for an example of the Five-Step Approach to setting goals.

STEP 1: Write Down What You Want to Accomplish

This initial description can be thought of as a tentative goal statement. The easiest way to begin your tentative goal statement is with the words "I want to." Think about what you want to accomplish.

STEP 2: Write Down Any Obstacles

Think about whether there are any course requirements, assignments, tests, or other factors that could jeopardize your success. Make a list of the difficulties you may encounter. Some students, for example, panic when they find out that their exams are going to be essay exams. You might consider this an obstacle if you know that you ordinarily don't do well on essay exams. Others may be concerned about attendance policies or oral presentations.

STEP 3: Write Down Any Resources Available to You

First, consider your general resources. You have successfully completed twelve years of school, so you have acquired some of the skills that can help you become a successful student. You have also acquired a background in quite a few subject areas. In addition, you probably earned some As and Bs, so you know that you can be successful in your academic pursuits. If you're a returning adult student, you also have developed skills in meeting deadlines, setting priorities, and managing multiple tasks—all necessary skills for college success. All of these things are general resources that will help you achieve your goals.

Next, consider each of the obstacles you listed individually. Think about how you might use your resources to overcome each obstacle. Write down specific resources you could use to achieve each goal. Specific resources include your friends and family, the faculty and staff members at your college, and you yourself. For instance, if you have difficulty with essay exams, you could go to your professor or to your college learning center to get some help before the exam.

STEP 4: List Your Motivation

Setting a goal is easy, but achieving it takes time, effort, and perseverance. Take a few minutes to think about why you want to achieve that goal. What's your motivation? Getting in touch with your motivation can help you decide how hard you want to work and why it's worth the effort.

STEP 5: Review and Revise Your Goal Statement

Now you're ready to write your final goal statement. In some cases you may find that you don't change your tentative goal statement at all; in other cases you may revise it. Check to be sure that your final goal statement is well written and takes into consideration the seven characteristics of effective goals.⁵

Develop an Action Plan

To achieve your long- and short-term goals, you need to develop an action plan. An *action plan* is a carefully thought-out method of implementing a strategy to achieve

⁵Based on ideas from Walter Pauk, *How to Study in College*, 4th ed. (Boston: Houghton Mifflin, 1989).

your goal—one that will help you get from where you are to where you want to be. Writing an action plan for a long-term assignment (such as a term paper, semester project, or portfolio) can help motivate you to work on the task throughout the semester because you have to identify each step of the process in advance. DaShawn's action plan for writing a history paper is shown in Figure 2.4. You can develop an action plan on notebook paper, on an index card, or by using the form shown in Figure 2.4, which can be found on the *Orientation to College Learning* Web site.

FIGURE 2.4

DeShawn's Action Plan

Goal: Prepare my history paper on family heritage				
Target Date	Action Tasks	Materials Needed	"To Do" Date	Evaluation
January 17	Prepare outline	Directions for assignment	January 14	✓
January 17	Prepare interview questions	List of possible questions	January 14	✓
January 17	Call my grandmother to schedule a time to visit and talk to her about my family	Planning calendar, phone #	January 15	✓
January 20	Ask my grandmother specific questions and jot down her responses below each of my questions	Typed questions, clipboard	January 16	✓
January 20	Tape record the interview just in case I miss something important	Tape recorder, extra batteries, extra tape	January 16	✓
January 24	Write the rough draft	Notes, questions, tape, assignment directions	January 19	✓
January 25	Have my grandmother review the paper to check to be sure my facts are correct	Questions and responses, rough draft	January 22	✓
January 26	Type my paper on the computer. Do the cover sheet and introduction, too	Rough draft, directions for cover sheet and introduction	January 23	✓
January 27	Proofread and make any necessary corrections	Handbook, rough draft	January 25	✓
January 28	Turn in the paper	Paper and question sheet with answers	January 28	✓
Outcome: I completed my paper on family heritage ahead of schedule.				

Set Action Tasks. *Action tasks* are the specific tasks that you need to complete to achieve your original goal. To write a term paper, you might include action tasks such as choosing a topic, writing a tentative thesis statement, using an online database to identify three to six good sources of information, taking notes on the source materials, developing an outline, and so on.

List the Materials You Need. Think about any materials you may need to complete your action tasks and list them on your plan next to each task. For example, to take notes on your sources, you would need to have your laptop or index cards, copies of your articles or books (or if you can't check them out, a list of where each is located in the reference area of the library), and a pen or pencil.

Set Time Frames. You need to set a target date for the completion of each of your action tasks. Giving yourself one week to complete each step in the plan is a good guide for completing a term paper, for example. Then set up a "To Do" date—a specific date and time to work on each of the tasks. Set the "To Do" date for the next action task when you complete the previous one. Checking off each task as it is completed can help you see the progress you're making and motivate you to keep working until you achieve your goal.

Evaluate Your Plan. Finally, after completing your plan (and your goal), conclude your action plan with an outcome statement describing how well the plan helped you achieve your goal. You could list, for example, the date that you actually finished your term paper, any problems that you encountered using the plan, and the grade that you received.

EXPLORE CAREER GOALS

You may find that setting career goals helps you put your academic and personal goals into perspective. When you know what you want to accomplish during your college career, it's easier to be motivated to work hard toward those goals. Many students enter college knowing what they want to do when they graduate—they've already decided on a future career. Taking classes that you find both interesting and relevant can help you get motivated right from the start.

What happens, though, if you enter college undecided about a career choice? Does that impact your motivation? In some instances, it can result in a lack of motivation to work hard. If you feel that your courses are irrelevant, uninteresting, or unimportant, you could be less motivated to excel. However, some colleges encourage students to explore a wide variety of courses before choosing a major. By taking entry-level courses in a number of areas, you might find courses that suddenly become relevant, interesting, and important to you. In this section, you'll have an opportunity to explore a number of strategies that will help you do a self-assessment,

explore career goals, choose an appropriate major, and evaluate your choices. So, if you haven't decided on a career goal—or even if you have—learning more about setting career goals can help you make a more informed and accurate decision.

Do a Self-Assessment

The first step in setting career goals is to do a self-assessment. A *self-assessment* is a systematic review of the factors that can affect your career path. Before you can choose a career path, you need to gather information about yourself. Gaining a better understanding of who you are will make it easier to select an appropriate career. You need to find out more about your skills, your interests, your values, and your motivation to make a good decision.

What Are Your Skills?

Think about your strengths and your weaknesses. What courses were you good at in high school? Which gave you the most difficulty? If you're good at math, for example, you may want to think about careers that require those skills, such as accounting, chemistry, physics, computer science, or engineering. If you said that math was your weakest subject, you may want to think about professions that don't require those skills, such as communication, history, social work, or some areas of education. Of course, just because you weren't good at math doesn't mean that you can't become good at math. Some students do very well in college math courses and move on to complete their degrees in spite of poor performance in high school math.

What Are Your Interests?

Even if you are great at math, you may not find math and math-related courses very interesting. Instead, you may be more interested in literature, history, or communication. As you explore a career, remember that you will have to do that job each day for many years. You want to select a career that will allow you to get up in the morning for work that you find interesting and rewarding.

What Are Your Values?

Before choosing a career, you need to think about what type of career fits well with your personal and professional value system. Do you want to help others, or are you interested in a career that provides you with security and status? Do you want a career that may put you into situations that involve practices that conflict with your beliefs? How you respond to these questions is important in considering the role that values play in choosing a career.

How Motivated Are You?

Your level of motivation also plays a part in choosing a career. For some career choices, you would need to go on to earn a graduate or professional degree. Are

you motivated enough to continue your schooling for three or more years after you complete your college degree? To become a dentist, doctor, psychologist, college professor, or lawyer, you would need to complete several additional years of training.

Let's say that you decided to pursue a career in business instead. You could graduate and get a good job working in a variety of businesses. Would you like to be your own boss, or do you want to work for someone else? It would take a great deal of motivation on your part to start your own business. Many small business owners work more than a typical forty-hour work week. Other professions require a high level of motivation on a daily basis. Becoming a teacher, member of the clergy, social worker, doctor, or nurse, for example, may require you to be even more motivated to do the job because other people are depending on you every single day. Putting others' needs before your own requires extra motivation on your part.

Explore Career Choices

Once you complete your self-assessment, your next step is to explore some possible career choices. You can gather a lot of information on campus through your career center, from your professors and advisor, and from other students. You'll also find that you can learn about various career opportunities from family members and friends, through volunteer work and internships, or by job shadowing. Finally, there are many online resources for career exploration.

Campus Resources

If you have no idea what you want to do after graduation, go to your career center, where you can complete inventories that will give you ideas about careers that match your interests, skills, values, and motivation. Your professors can provide you with a wealth of information about possible careers in your major. If you're taking a class that you really like, talk with your professor about the types of careers that are available in that field. Your advisor is another excellent resource. He or she can help you match your skills and interests to various majors on campus. Other students are a great resource because they are also going through or may have already gone through part of this process. Getting others' opinions about various career choices can provide you with a lot of good information. Occasionally, though, you might get misinformation, so do some research yourself.

Community Resources

There are also many resources outside of your college community. Attending job fairs, doing volunteer work, participating in job shadowing, and completing internships can give you some real-life experiences that may tell you whether you want to pursue a particular career.

Online Resources

There are many Web sites devoted to career exploration. Search online for any career you are considering and you'll find hundreds of links. You can find career tests to take online (be careful, though, as some of these are not free, and others are tied to various job-training schools), information on degree requirements, salaries, job opportunities, and even locations where there are openings in various careers. Be sure to explore a number of sites before making a tentative decision about your career path.

Choose Your Major

Once you have an idea of the type of job you want to pursue, you need to check with your advisor or advising center to find out which major on your campus will provide you with the educational requirements you need. Making a preliminary decision about a career path early in your college career can help you select the appropriate major during your freshman or sophomore year. The advantage of an early decision is that you'll be able to complete all of your degree requirements in a shorter time frame than the student who waits until his or her junior or senior year.

If you enter college having already selected a major, you can explore various careers that match your major. In this case, your professors and advisor can be very helpful by sharing information on various jobs that would be open to you. However, many students change their major at least once during their college career (I did). This has its advantages, in that students who change their major tend to persist in college and graduate. Furthermore, students who change their major are actually more likely to graduate with a degree that allows them to enter a field that is a better fit for them. However, unless you make the switch fairly early, it may take you longer to complete your degree requirements.

Evaluate Your Decision

As you move through your college career, stop and reassess your career choice at the end of each semester. The courses you complete (or withdraw from) can provide you with valuable information about the choice you made. Think about your skills: Are you earning high grades in your major classes? Think about your interests: Is this something you want to do for the rest of your life? Think about your values: Will you feel comfortable with the decisions you will have to make in the career you chose? Think about your motivation: Will this career require you to work harder or put in more hours than you want? You should also know that many people change careers during their lifetime. As you select your major and enroll in your general education courses, you need to prepare yourself not only for this career but also for other possible future careers. Building a strong skill set can prepare you for any career you may choose in the future.

SUMMARY

Setting goals helps motivate you to attend class regularly, keep up with your day-to-day assignments, and complete long-term projects on time. Writing goal statements that are self-chosen, moderately challenging, realistic, measurable, specific, finite, and positive will help you accomplish the goals that you set this semester and can increase your motivation. Setting priorities is also important to your success because you'll need to find the right balance between your academic and personal goals. To achieve your goals this semester, you must be open to change—you must be willing to try new strategies. Using the Five-Step Approach to setting goals can help you realistically set grade goals for each of your courses. Making academics your top priority, especially for the first three weeks of the semester, will get you off to a good start. Setting career goals can also help you choose the right major and increase your motivation and performance in college. The important thing to remember is that career goals help motivate you to set and achieve your academic goals, which, in turn, help motivate you to set and achieve your study goals. Why are you in college? Think about it.

ACTIVITIES



1. Make a list of ten goals that you would like to accomplish this semester. Then list ten goals that you would like to accomplish tomorrow. Label each of the goals as an academic (A) or personal (P) goal. Do you have an overabundance of personal goals? Were your first three goals on each list academic or personal goals? How would you change your lists so that your academic goals have top priority?



2. During the first five minutes of the class, make a list of five to ten goals that you plan to accomplish for the week. Then share your list with a group of your classmates. As each student's list of goals is reviewed, identify the type of goal (work, personal, or study) and decide how well it's formulated according to the seven characteristics of good goal statements. Make suggestions for changing some of the goal statements to make them more positive, realistic, measurable, and specific.



3. In a paragraph or two, describe your long-term goals. Where do you see yourself in five years? In ten years? Be specific as you describe the kind of lifestyle that you hope to have. What's your motivation? Make a list of the reasons that you want to achieve those goals.



4. Justin is a new college student who works occasionally on weekends. He wasn't scheduled to work next weekend, so he signed up for the bus trip to the away football game. However, after making his plans, he found that he had an exam in psychology and an English paper due the following Monday. To complicate matters, he was called in to work for eight hours on Sunday. Should he go to the game on Saturday? What are his alternatives? How would his decision affect his academic or personal goals? What would you do?



5. Make a list of five changes that you've made so far this semester. List five changes that you want to make this semester but haven't made yet. Why did you make the changes on your first list? What's stopping you from making the changes that you haven't made? Jot down

your answers to each of these questions on notebook paper and then get together with your group to discuss your responses.

6. Create a chart to keep track of the changes that you make in the next couple of weeks. List up to ten changes that you make in your study techniques, time management, or class participation (or any other change you make). Be sure to record the outcomes of these changes as you learn them.
7. Go to the *Orientation to College Learning* Web site and download one copy of Activity 2-2 from the Activities Packet for each of your classes. Use the Five-Step Approach to set goals for all your courses.
8. Use the Action Plan form on the *Orientation to College Learning* Web site to create an action plan for one of your long-term assignments. Divide the assignment into a series of action tasks and include both Target Dates and “To Do” dates for each step. Then share your plan with a group of your classmates. What suggestions did they have for improving your plan?
9. To begin your career self-assessment, jot down your responses to each of the following questions. What are your strengths and weaknesses in school? What are your interests? What majors or careers are not at all interesting to you? What values are important to you that may affect your career choice? How motivated are you? How hard (and long) are you willing to work after college to prepare for your career? After completing your self-assessment, describe the career choice(s) you are considering.
10. Now that you’ve completed Chapter 2, take a few minutes to repeat the “Where Are You Now?” activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you’ve learned in this chapter?

CHAPTER REVIEW

Terms You Should Know: Take the matching test located on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.

Completion: Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. Goals should be _____ challenging.
2. You should avoid words like _____ and _____ in your goal statements.
3. The third step in setting goals is to list your _____.
4. _____ help students break long-term goals down into individual steps.
5. Doing a career self-assessment involves a review of your skills, interests, _____, and _____.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. The goal statement, "I will earn an A or B in Biology" should be revised because it is not
 - A. specific.
 - B. measurable.
 - C. realistic.
 - D. positive.
7. Why should you revise your goals?
 - A. You may have set your goals too low.
 - B. You may have set your goals too high.
 - C. After the first exam, you'll have a more accurate picture of your performance.
 - D. All of the above are good reasons.

Short Answer/Essay: On a separate sheet, answer the following questions:

8. What are four main reasons that setting goals improves performance?
9. Why should students make academics their top priority for the first three weeks of the semester?
10. Why is it important to balance academic, personal, and career goals in college?



Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Time Management

CHAPTER

3



"After my first week of school I honestly thought I'd never be able to juggle all of my responsibilities both at work and at home—not to mention keeping up with the homework. However, after actually doing the Fixed Commitment Calendar and identifying just when I had to do what, it didn't seem so overwhelming. I was able to see that I had time for it all. . . . I like the organization this brings to my somewhat chaotic life."

Dawn Davis, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Assignment Calendar
Escapist techniques
Fixed commitments
Fixed Commitment Calendar
Hostility
Low frustration tolerance

Multiple projects
Procrastination
Prospective
Retrospective
Rewards
Running List

Self-downing
Study Log
Time Log
Time management
"To Do" list

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Have you estimated how many hours you need to study this semester?	_____	_____
2. Do you tend to complete your assignments on time?	_____	_____
3. Have you estimated how long it takes you to read ten pages in each of your textbooks?	_____	_____
4. Do you begin working on long-term assignments early in the semester?	_____	_____
5. Do you make lists of things to do in your head rather than on paper?	_____	_____
6. Do you find that you go out even when you know you should be studying?	_____	_____
7. Do you schedule time to study for exams?	_____	_____
8. Are you working at a job more than twenty hours a week?	_____	_____
9. Do you know exactly what you are going to work on when you sit down to study?	_____	_____
10. Do you do the assignments from your favorite class first?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to all questions except 5, 6, 8, and 10, and 1 point for each *no* answer to questions 5, 6, 8, and 10. Total up your points. A low score (0–4) indicates that you need some help in managing your time now. A score of 5 to 7 indicates that you are using some good time-management strategies but not others. A high score (8–10) indicates that you are already using many good time-management techniques. What did you learn about yourself by completing this activity?

ANALYZE YOUR USE OF TIME

You can establish a good time plan once you know how you actually spend your time. Identifying how much time you have available for study and how much time you need for study can help you decide whether or not you should make changes in your current time plan.

Why Is Time Management Important?

Time management is the way you regulate or schedule your time. You can make more efficient use of your study time and complete your work in less time by using good time-management strategies. The key to successful time management is allowing enough time to complete your work while still finding time to complete all of your other responsibilities. Learning good time-management strategies can help keep you motivated to accomplish the goals that you set for yourself in Chapter 2.

In high school, your study time was fairly well defined or structured. In college, though, you won't find that kind of structure. Unlike high school students, who are in class for almost thirty-five hours a week, most college students are in class for only twelve to fifteen hours a week. To a college freshman, this seems like a breeze. However, in college, most of your work must be completed outside of class. And, even though you may not want to admit it, you can't get all that work done in just a few hours every evening. To achieve your goals, you also need to make use of your available daytime hours for study.

Good time-management skills can actually save you time. A few minutes each week spent on planning can make a real difference in how your study time is organized and spent. Once you learn good time-management skills, you may be surprised to find that you can do all the things you want to do. You may find that for the first time, you are in control of your life. The first rule of good time management is: *Don't let time manage you; you must learn, instead, to manage your time.*

How Do You Manage Your Time Now?

The first step in learning better time management is to evaluate how you actually use your time now. You can find out a lot about your own time use by keeping track of how you use it.

Keep a Time Log

Although most students think that they spend enough time on academic tasks, many of them don't. By keeping a Time Log, you'll be able to see how much or how little time you are actually spending on various activities. A *Time Log* is a record of what you do each hour of the day for one week. To create your own Time Log,

download or print a copy from the Web site. Then write down what you did in the morning at lunchtime, what you did in the afternoon at dinnertime, and what you did in the evening at bedtime. Some students prefer to carry an index card to record their activities and then copy them on to the Time Log at a later time. If you wait until the end of the day, you may have trouble remembering what you did. Split hours by drawing a diagonal line, but don't worry about five- or ten-minute activities.

You may find it helpful to color code your Time Log. Highlight all of your academic tasks (classes, meetings with professors or tutors, and study time) in one color, your sleep hours in another, and the rest of your life (work, social time, meals, and so on) in a third. A quick glance can tell you a lot about how effectively you are using your time now. To get a more accurate picture, complete a Time-Use Chart (available on the Web site) to count the number of hours you used for each activity. You'll need to add or modify the categories depending on your own activities. Limit your total miscellaneous hours to ten for the week. If you include many more, you won't have a very accurate picture of your time use.

If you're a full-time student, you should divide your total hours into three overall categories. You should spend about fifty-six hours a week sleeping (one-third of your time), about fifty-six hours for academics (classes, study time, tutoring, review sessions, and meetings with your professors or advisor), and fifty-six hours for the rest of your life. If you're working full-time and attending college on a full-time basis, you won't have much time left over for social activities or home responsibilities. Looking realistically at how you're using your time now can help you make some necessary changes to be more successful in college.

Complete a Prospective-Retrospective Calendar

Learning to manage your time effectively also depends on how well you can stick to a schedule. A Prospective-Retrospective Calendar allows you to compare what you plan to do on a given day (*prospective*) with what you actually do (*retrospective*). What you do during each hour of the day is not important here. Instead, the key is how well you stick to your plan. Use the Prospective-Retrospective Calendar on the Web site, or create your own. In the far left margin, list each hour of the day. In the prospective column, list what you plan to do. The next day, record what you actually did in the retrospective column. Finally, evaluate your results by putting a plus sign in the right margin if you did what you planned to do and a minus sign if you didn't. Your goal the next day is to have fewer minus signs.

Just setting up a plan for each hour of the day often provides sufficient motivation for completing it. When you complete the Prospective column of the calendar, you're actually creating a "To Do" list. Then, when you fill in the Retrospective column, you're completing a portion of a Time Log. Comparing what you planned to do with what you actually did provides you with feedback on how well you can stay on a schedule. Some students who try this activity are surprised to find that

they faithfully follow their time plans. Other students find that they have difficulty staying on a schedule. Their most common problem involves getting study assignments done as planned. Do you have the same problem?

Identify Time Available for Study

Identifying how much time you have available for study is the next step in setting up a good time plan. This involves looking at how much of your time is committed to other activities and also how much time you, as an individual, need to complete your work.

To establish how much of your time is committed to other activities, you should complete a *Fixed Commitment Calendar*.¹ What are fixed commitments? If you said classes, work hours, or even mealtimes, you were right. *Fixed commitments* are things you do the same time every day or every week.

STEP 1: Write in Your Fixed Commitments

Print out a copy of the Fixed Commitment Calendar (available on the Web site) and write in your classes. Next, write in hours when you are asleep (normal sleep hours, not naps), mealtimes (setting regular times for meals helps you stay on a schedule), and work hours. If your work hours vary, don't write them in yet; we'll talk more about study and work later in this section. If you're involved in clubs, organizations, or sports, you may need to include additional hours for regularly scheduled meetings (same time each week) or practices and games. If you have family responsibilities such as dropping off or picking up your children at school or day care (or other regularly scheduled tasks), write them in, too. If you know that you'll be socializing on most Friday and Saturday evenings, you should write in those times even though your plans aren't definite. If you plan to sleep in or attend religious services on Saturday or Sunday morning, include those hours as well.

STEP 2: Identify Available Study Blocks

After you have written in all the regularly committed hours, you should begin to see some patterns in your uncommitted time. You may have some very short blocks of time between classes, some two- or three-hour blocks in the morning or afternoon, and some longer blocks in the evenings and on weekends. Think of these time blocks as time available for study rather than free time. You also may notice that you have a lot of time to study on certain days but very little on others. All of this information will be useful as you begin to schedule your study time.

After determining your available study time, trace around the perimeter of each time block (see the sample in Figure 3.1). Use a brightly colored marker to outline

¹Adapted from Time Analysis Worksheet in Nancy V. Wood, *Reading and Study Skills*, 3rd ed. (New York: Holt, Rinehart & Winston, 1986), pp. 18–20.

FIGURE 3.1

Greg's Fixed Commitment Calendar

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
7:00 A.M.	sleep	sleep	sleep	sleep	sleep	sleep	sleep
8:00 A.M.	shower/ dress/eat	shower/ dress/eat	shower/ dress/eat	shower/ dress/eat	shower/ dress/eat	sleep	sleep
9:00 A.M.	Algebra class	lift weights	Algebra class	lift weights	Algebra class	sleep	sleep
10:00 A.M.	lift weights	lift weights		lift weights	lift weights	shower/ dress	shower/ dress
11:00 A.M.	English class	History class	English class	History class	English class	eat	eat
12:00 P.M.		eat		eat		work	watch football
1:00 P.M.	eat		eat		eat	work	watch football
2:00 P.M.	Sociology class		Sociology class		Sociology class	work	watch football
3:00 P.M.						work	watch football
4:00 P.M.	practice	practice	practice	practice	practice	work	watch football
5:00 P.M.	practice	practice	practice	practice	practice		work
6:00 P.M.	eat	eat	eat	eat	eat	eat	work
7:00 P.M.							work
8:00 P.M.					out	out	work
9:00 P.M.					out	out	work
10:00 P.M.					out	out	
11:00 P.M.	TV	TV	TV	TV	out	out	
12:00 A.M.	sleep	sleep	sleep	sleep	out	out	sleep
1:00 A.M.	sleep	sleep	sleep	sleep	out	out	sleep
2:00 A.M.	sleep	sleep	sleep	sleep	sleep	sleep	sleep

Hours Available for Study 34
Hours Needed for Study 32

each time block. Seeing at a glance the hours when you have time to study can be very helpful when scheduling study time.

STEP 3: Make Copies If Your Schedule Changes

If your work schedule changes each week, this calendar is even more important for you. Before you put your work hours on the schedule, make a photocopy of the calendar for each week of the semester. When you get your work schedule each week, write in your work hours. This will save you a lot of time because you won't have to start from scratch each week.

STEP 4: Total Your Available Study Time

As a final step in preparing your Fixed Commitment Calendar, count the number of hours you have available for study. If you're not working, you may find that you have fifty to seventy hours available for study. Don't panic—you won't need all of them for study. If you are working, however, this number may be substantially smaller, depending on the number of hours that you work each week.

Greg (see Figure 3.1) has only thirty-four hours available for study. He is working ten hours a week and is participating in sports. He spends one or two hours a day lifting weights and another two hours a day practicing. To complete his assignments, Greg will have to make efficient use of his time.

Identify Time Needed for Study

Knowing how much time you have available for study is useless until you identify how much time you need for study. Formulas, such as those that allot two hours of outside study time for every hour in class, are designed to simplify the task of determining how much time you need for study. So a student who is taking fifteen credits would need thirty hours of study time per week. Many students find that this simple formula just doesn't work. To find out how many hours you need for study, you need to consider a number of other factors.

Consider Your Credit Load

The first indicator of how much time you really need for study is your credit load. If you're taking fifteen credits, you should begin with a 2-to-1 ratio (two hours of study time for every hour in class). Remember that this is a minimum and probably will change when you consider the other factors—the goals you have set, how quickly or slowly you work, and the difficulty of your courses. If you're taking more than fifteen credits, you need to think of yourself as someone who is working overtime (12 to 15 credits is generally considered a full-time credit load). You'll need to work extra hours to successfully complete your work and earn good grades.

Consider the Difficulty Level of Your Classes

You'll need to increase your study hours if you're taking very difficult classes. Certain classes at every school seem to have a reputation for being "killer" classes. If you're enrolled in a "killer" class, you may have to increase your study ratio to 3 to 1 (three hours of outside work for every hour in class) or even 4 to 1. Even if you're not taking a "killer" course this semester, you may find that one particular class is especially difficult for you. College Algebra can be a tough course if you haven't used your math skills for a few years. Chemistry class can be difficult for an English major. If you're taking a course that is especially demanding, you should allow three or four hours of outside work for every hour that you're in class.

Consider Your Grade Goals

You may also need to increase your study time if you want to get an A or B in one or more of your courses. The formula of spending two hours outside of class for every hour in class is the average time that students spend on study. However, average students earn average grades in college. If you want to earn high grades, you'll have to spend more time on your course work. This may involve editing your lecture notes (see Chapter 5), annotating your text or taking notes as you read your text assignments (see Chapter 9), and studying more actively for quizzes and exams (see Chapter 10). You may need to spend more time on your assignments to ensure that they reflect your best effort. Some students also work with tutors or form a study group to maximize their grades. Many students think that they can get a good grade on a paper by simply writing a first draft and running the spell checker. However, to get an A or B, you may need to spend additional time planning your paper, outlining it, revising it, and editing it. All of these activities take additional time.

Learn How Long It Takes to Do Your Assignments

You also can judge how much time you need for study by estimating how long it takes you to do individual assignments. Not everyone reads, writes, or works problems at the same speed. Time yourself the next time you read ten pages in each of your textbooks. Whether you highlight, take notes, predict test questions, make word cards, or use other active strategies as you read will impact your time. Make a note in the front cover of each text; for example, ten pages = thirty minutes. When you have a forty-page reading assignment, you'll know that you need two hours to complete it. Finding out how long it takes to read ten pages in each of your texts will help you plan more accurately. You can also time yourself as you complete your other assignments. When you know how long it takes to do the regular assignments, you'll be able to accurately determine how much time you need for study.

Monitor Your Current Study Time

One way to get a better estimate of how much study time you actually need is by monitoring your current study time. By tracking how many hours you actually study

(read, take notes, edit lecture notes, do math or writing assignments, and so on) during a typical week, you can evaluate the accuracy of your estimate of study time needed. You can also repeat the experiment during a week that is not so typical. Choose a week in which you have one or more exams and a paper or project due.

You may also find it helpful to keep a Study Log (available on the Web site). A *Study Log* is a calendar where you write in the number of hours you spend doing assignments and studying for each of your courses. By keeping track of exactly how many hours you spend each day (and each week) on each of your courses, you can monitor your time use. You may find that you don't spend enough total time over the course of a week or that you don't spend enough time on one class. You may find that you're getting lower grades in the classes you're spending less time working on and higher grades on the ones on which you spend more time. You may also notice that on some days you spend a lot of time on academic tasks and very little time on other days. Look for patterns that will help you correct any problems early in the semester. Compare the total hours for each of your classes to the time goals that you set when you calculated how much time you need for study. Using a Study Log can motivate you to put more time into your work.

Establish a New Time Plan

If you found that you need more time to complete your work than you actually have, you need to modify your time plan. Basically, you have two options. One is to make more time for study, and the other is to reduce the amount of time that you need for study.

Reduce Your Credit Load

One way to reduce the amount of time that you need for study is to reduce your credit load. If this is your first semester in college, you should take twelve to fourteen credits only. If you're a returning adult student, you may find that taking only one or two classes (three to six credits) is a good way to begin. Earning good grades during your first semester in college is much more important than earning a lot of credits. If you're working full time, you may have to take a lighter load as well. After all, what's the point of working so hard to pay for a college education if you can't find enough time to do your best?

Reduce Your Work Hours

If you absolutely can't reduce your credit load, then you need to reduce some of your fixed commitments and make more time for study. In many cases that means reducing work hours. If you're attending school full time, you may find it difficult to work more than twenty hours a week. Certainly, some people can go to school full time and work full time, but many of them report that they don't have time for anything else (even meals or sleep).

Reduce Your Extracurricular Activities

Some extracurricular activities can take as much time as a part-time or full-time job. Although it's important for students to be involved in college experiences outside the classroom, some students go too far. If you're always running off to some meeting, practice, or activity and don't have enough time to study, you need to rethink your level of involvement in extracurricular activities. You don't have to eliminate all activities; instead, be selective and choose one or two that you really enjoy. Let the others go for another semester.

Reevaluate Your Time Plan

A good time to reevaluate your time plan is after the first round of exams. One good way to determine whether you're putting in enough time studying is to consider the grades you received on your first set of exams. If your grades are in line with the goals you set, then your time plan is probably working effectively for you. You also can judge whether you're using your time efficiently by looking back at some of your calendars and "To Do" lists. Have you been accomplishing the study goals that you set each day?

The second point at which you should evaluate your time plan is after midterm exams. By this time, you should be able to determine quite accurately which parts of your time plan work and which don't. This is the best time to make some changes that will help you improve your grades. Finally, you also should rethink your time plan about two weeks before final exams.

ORGANIZE YOUR STUDY TIME

Once you've set up a time plan that allows you enough time to complete all your work, you need to learn how to organize your time so that it can be used efficiently. By learning to plan and schedule your study time, you can begin to take control of your time.

Create an Assignment Calendar

One of the best ways to organize your study time is to make an Assignment Calendar. An *Assignment Calendar* includes all of your assignments, quizzes, and exams. Knowing what you have to do for each day of the semester is the first step in planning your study time.

The easiest way to prepare an Assignment Calendar is to use a blank block calendar similar to the one in Figure 3.2. Write in the name of the month, and number the days of the month. Next, pull out your course syllabi. Write all your

FIGURE 3.2

Assignment Calendar for September

Month September

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3	4 H - Ch 1 SS - Ch 1	5 A - 1.1 & 1.2 E - 1-35 Journal	6 H - Ch 2 SS - Ch 2	7 A - 1.3 & 1.4 E - 38-52 Journal Soc - Ch 1 (2-24)	8
9	10 A - 1.5 & 1.6 E - Experience essay-draft	11 H - Ch 3	12 A - 2.1 & 2.2 Soc - Ch 2 (26-48)	13 SS - Goal statements	14 A - 2.3 & 2.4 E - Experience essay	15
16	17 A - 2.5 & 2.6 E - 53-56 Soc - Ch 3 (52-74)	18 H - Ch 4 SS - Ch 3 To Do lists	19 A - 3.1 & 3.2 E - Observation essay-draft	20 SS - Ch 4 & H.O. Calendars due	21 A - 3.3 & 3.4 E - Observation essay due	22
23	24 A - 3.5 & 3.6 <div>SOC-EXAM 1</div>	25 H - Ch 5 SS - Ch 5 notes due	26 A - 4.1 & 4.2 Soc - Ch 4 (75-103)	27	28 A - 4.3 & 4.4 E - 65-81	29
30						

A = College Algebra
E = English Composition

H = Western Civilization
Soc = Sociology

SS = Study Strategies

assignments on your calendar. (You may have reading assignments, math exercises, and an English paper all due on the same day.) If some of your professors don't give you a day-to-day syllabus, you'll need to add assignments to your calendar as you learn of them. You may find it helpful to put the assignments for each separate course in a different color or list them all in black ink and then use colored markers to differentiate each subject. By color coding your assignments, you can quickly identify the work that you have to do each day. Make exams stand out on your calendar by writing them in large capital letters and putting a box around them.

After you've completed your calendars for each month of the semester, post them where you can see them easily—for example, on your refrigerator or bulletin board—and make sure that you're able to see two months at any one time. There is nothing more frustrating than turning the page on your calendar too late and realizing that you missed an important event. This is true for assignments and exams, too. Look at the sample calendars in Figures 3.2 and 3.3. The last week of September looks like a pretty easy week after the Sociology exam on Monday. There is a little reading to do, but the workload definitely seems to

FIGURE 3.3 Assignment Calendar for OctoberMonth October

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	¹ A - 4.5 & 4.6.6 E - Exposition essay-draft	² H - EXAM I SS - Text marking due	³ A - EXAM I E - Revision Soc - Ch 5 (105-130)	⁴ H - Ch 6 SS - EXAM I	⁵ A - 5.1 & 5.2 E - Exposition essay due	⁶
⁷	⁸ A - 5.3 & 5.4 E - 82-111 Soc - Ch 7 (162-189)	⁹ H - Ch 7 SS - Ch 9 text notes	¹⁰ A - 5.5 & 5.6 E - Revision due	¹¹ SS - Predicted questions	¹² A - 6.1 & 6.2	¹³
¹⁴	¹⁵ A - 6.3 & 6.4 E - Portfolio due	¹⁶ H - Ch 8 SS - Ch 6 & H.O.	¹⁷ A - 6.5 & 6.6 Soc - Ch 8 (191-240)	¹⁸ SS - Ch 7	¹⁹ A - 7.1 & 7.2 E - 112-125	²⁰
²¹	²² A - 7.3 & 7.4 E - Definition essay-draft SOC - EXAM II	²³ H - Ch 9 SS - Ch 10	²⁴ A - 7.5 & 7.6 E - 127-140	²⁵ H - Ch 10 SS - Study plan due	²⁶ A - EXAM II E - Definition essay due Soc - Ch 11 (278-310)	²⁷
²⁸	²⁹ A - 8.1 & 8.2 E - Argument essay due	³⁰ H - EXAM II SS - EXAM II	³¹ A - 8.3 & 8.4 E - 141-162			

A = College Algebra
E = English Composition

H = Western Civilization
Soc = Sociology

SS = Study Strategies

be on the light side. If this were your calendar, you might think that you could take it easy for a week. Now look at the first week of October. You have exams in History, Algebra, and Study Strategies, three papers due for English, and two chapters of reading. If you had waited until the beginning of October to turn the page of your calendar, it would have been too late to prepare for your exams and complete your papers.

Prepare a Running List

Another good way to organize your study time is to keep a Running List. A *Running List* is a list of all of the assignments that you need to complete over the next week or two. You can use a planner or notebook, or create your Running List on the computer. Each week, look ahead at your Assignment Calendar and jot down the tasks you need to complete for the next two weeks. An easy way to organize them is by course name. Have a category for each class and have one for

miscellaneous, too. (If you keep track of the personal tasks you need to complete, they won't unexpectedly interrupt your study time.) You can put them on your list in order of due date or you can add the due date after each task. If your professor gives you an assignment in class that's not listed on the syllabus, just add it to your Running List and write it on your Assignment Calendar, so you can see whether any other tasks might compete with it for your time. The Running List is great because it allows you to keep track of upcoming study tasks and takes so little time to complete.

Use Daily "To Do" Lists

Each afternoon or evening, take a look at your Running List and make out a "To Do" list for the next day. A *"To Do" list* is a list of the tasks that you want to complete each day. Break down some of the tasks from your Running List. You might decide to read your History assignment over the next two days or work on writing your English essay for one hour every day during the week.

Putting your personal goals on the list is important, too. This further reinforces your commitment to put all your plans in writing. In addition, writing your personal goals on your "To Do" list will help you stay more organized. The more organized you are in completing your personal goals, the more time you'll have to complete your academic goals.

Making "To Do" lists can become habit forming, so by all means get started immediately. Don't worry if you don't accomplish everything on your list; few people do everything they set out to do every day. Just move the one or two tasks that were left uncompleted to the top of the list for the next day. Remember, though: It's important that you plan realistically. A pattern of planning too much to do and then moving half of your tasks to the next day can lead to procrastination.

Establishing priorities will help you complete your most important (or pressing) tasks first. Use numbers, a star, or another symbol to indicate that certain tasks need to be done first. Look at the "To Do" lists in Figure 3.4. In the first example, Jean mixed study goals and personal goals together. As you might expect, the personal goals were completed, and the study goals were left undone. Put your academic goals at the top of the page and your personal goals at the bottom. By putting your study goals first, you're reinforcing your commitment to academics. By setting priorities, Robin was able to complete all of her study tasks before beginning her personal goals (Figure 3.4).

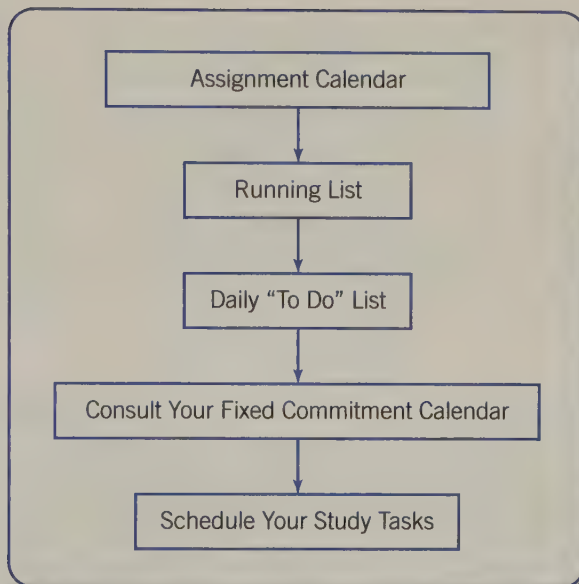
As you complete the tasks on your "To Do" list, cross them off your "To Do" list and your Running List. It's really easy to stay organized when you have an overview of your workload for the semester, when you know what you need to accomplish in the next week to ten days, and when you set daily goals for yourself on your "To Do" list.

FIGURE 3.4 Sample "To Do" Lists

JEAN'S "TO DO" LIST	ROBIN'S "TO DO" LIST
DAY <u>Wednesday</u>	DAY <u>THURSDAY</u>
Study Goals:	Study Goals:
✓1 <u>Go to student aid office</u>	✓2 <u>MAKE COPY OF SPEECH OUTLINE</u>
✓2 <u>Do laundry</u>	✓3 <u>PRACTICE SPEECH</u>
7 <u>Final draft Engl paper</u>	✓4 <u>READ PP. 135-145 IN BLACK LIT</u>
✓6 <u>Go copy Fr tape Ch 3</u>	✓1 <u>READ ESSAY 2 IN POL SCI</u>
✓3 <u>Get card for Grandma B-day</u>	✓8 <u>DO FEB. CALENDAR</u>
11 <u>Make to do list for tomorrow</u>	✓6 <u>READ PP. 146-156 IN BLACK LIT</u>
5 <u>Study Ch 2 Fr</u>	✓5 <u>READ 10 PPS. OF CH. 1 POL SCI</u>
✓8 <u>Read Art pp 53-63</u>	✓7 <u>READ PP. 163-173 IN SS</u>
9 <u>Do Alg Ch 2-5</u>	✓9 <u>DO "THINGS TO DO" FOR TOMORROW</u>
✓4 <u>Dentist Appt. 2:30</u>	<input type="checkbox"/> _____
✓10 <u>Meet Tom 5:30</u>	<input type="checkbox"/> _____
Personal Goals:	Personal Goals:
<input type="checkbox"/> _____	✓10 <u>WRITE LETTER HOME</u>
<input type="checkbox"/> _____	✓11 <u>CHECK MAIL</u>
<input type="checkbox"/> _____	✓12 <u>GO TO BASKETBALL GAME</u>
<input type="checkbox"/> _____	13 <u>CLEAN ROOM</u>

SCHEDULE YOUR STUDY TASKS TO STAY MOTIVATED

To make the best use of your study time, you should begin to plan weekly or daily what you're going to do and when. Now that you know how long it takes to read ten pages in each of your textbooks, you can easily schedule all your reading assignments. You also should have a pretty good estimate of how long it will take to complete your writing, math, and study assignments. One thing that can make a difference in whether you accomplish your goals is your level of motivation. You need to be well motivated to plan your study tasks in advance and set up a study schedule. The following strategies can help you use your time more efficiently and effectively.

FIGURE 3.5Steps to Organizing
Your Study Time

Assign Tasks to Available Study Time

To set up your study schedule, refer to your Fixed Commitment Calendar to assign specific tasks to your available study time (see Figure 3.5). Use your “To Do” list to slot assignments into one-hour, two-hour or longer time blocks. Assigning specific tasks to specific blocks of time can motivate you to complete your work on time.

Organizing your work and scheduling your time can make a huge difference in how much time it takes to do your work. However, just planning to read twenty pages at 2:00 P.M. is no guarantee that you’ll get it done. Schedules are designed to organize your use of time, but they’re not designed to make you do the work. *You* have to do that.

Use Your Fixed Commitment Calendar to Schedule Your Study Tasks

You may also find it helpful to schedule your study tasks on your Fixed Commitment Calendar. You’ve already left a number of blocks of time blank on your calendar—your available study time. Scan your calendar into your computer and create a template for the entire semester. Then you can type your study tasks into the blank blocks that you want to use. You could also print out a copy or make a photocopy of your Fixed Commitment Calendar and write in your study tasks each week, as if they were planned events just like classes, meals, or work hours. Be sure to use a different color for your study tasks so that they stand out when you review your plans for the day.

Use Your Daytime Study Hours

When you're planning your study schedule, don't forget to use your daytime study hours. In high school you may have been able to get all your homework done during the evening, but there aren't enough evening hours to complete all your study assignments in college. Look back at Greg's Fixed Commitment Calendar in Figure 3.1. Greg needed a minimum of thirty-two hours of study time per week to complete his assignments. If he used only his evening hours, he would be twelve hours short of his minimum. The fourteen hours that Greg has available during the day are necessary for him to do his work.

Study in One-Hour Blocks

One effective strategy for keeping yourself motivated is to study in sixty-minute time blocks. As you schedule your study tasks, break them down so that they can be accomplished in one-hour blocks of time. Then plan to read, do problems, write, or study for fifty minutes. Then take a ten-minute break. Be realistic about the kind of activity that you plan for a study break. Taking a ten-minute nap just will not work, and going out to play a quick game of basketball inevitably will lead to a longer game of basketball. What can you do in ten minutes? You can grab a snack, send a text, check your e-mail, check on your kids, throw a load of laundry in the washer, or make a phone call. Doing aerobics or just stretching is also a great activity for a break between study periods.

Break Tasks Down

You may find that breaking down your tasks into manageable units will help you accomplish your goals. Which would you rather read, a fifty-page chapter or a ten-page chapter? Most people would agree that a ten-page chapter sounds much more appealing. Break down long reading assignments on your "To Do" list—you could divide that fifty-page chapter into five separate tasks. It may make your list a little longer, but it also will allow you to shorten it more rapidly. Once you complete the first ten-page chunk of reading, you'll feel a sense of accomplishment and be motivated to read the next ten pages. Many of my students have found that breaking down tasks reduces their tendency to procrastinate—perhaps you will, too.

Tackle Difficult Assignments First

Do your difficult assignments first when you're the most alert. If you leave them until the wee hours of the morning, you may find that they are even more difficult or you may decide not to do them at all. You can complete your easy assignments late in the day even when you're feeling tired. You also may find that if you leave the

more difficult tasks for the end of the day, you worry about them as you work on other tasks. A difficult assignment can feel like a heavy weight hanging over your head.

Also, do your least favorite tasks before completing the ones you like. If you do the assignments that you like the most first, you have nothing to look forward to. Work for fifty minutes on a task you don't like, and then work on a task you do like as a reward. Doing your least favorite or most difficult assignments first and your easiest or favorite assignments last will help you stay motivated throughout the day.

Switch Subjects

Another good strategy for maintaining your motivation to study is to switch subjects. By alternating between reading psychology and working algebra problems, you can get more done without becoming bored and tired. If you have a long time block available for study (for instance, from 6:00 to 11:00), you should switch subjects every hour. Occasionally, you'll find that you're really progressing on an assignment and, after the ten-minute break, want to continue working on it. In such cases, you should do so. However, most students find that after an hour they're only too willing to work on something else for a while.

Work Ahead

To be in control of your time, learn to work ahead on your assignments. You'll find college much less stressful if you stop doing Tuesday's assignments on Monday. Get into the habit of doing the work due for Tuesday on Sunday or even on Friday. Always being a little ahead of the game will give you a feeling of security. If something comes up (and something always does, at just the wrong time), you'll still be prepared for class the next morning. You should work ahead on long-range assignments, too. Schedule one to two hours each week to work on a term paper or project. By starting early, you can easily complete a long-term project and still keep up with your regular assignments.

Plan Rewards

In many ways, your ten-minute study break is a reward for having completed one block of study tasks. These short breaks, however, aren't always enough of a reward to keep you motivated. It's a good idea to get into the habit of rewarding yourself for completing difficult tasks or for completing all your work on a particular day. *Rewards* are whatever you can plan to do that will help keep you working when you want to stop. Students use many kinds of rewards to stay motivated. Ordering



More Time-Management Tips

❑ **Develop a schedule.** Set up a schedule for both studying and completing your other responsibilities. Put your schedule in writing and stick to it. You may need to explain to your friends or parents (or your children) that you need more time to study now that you're in college and won't be able to spend as much time going out or doing household chores as you did before.

❑ **Post your study schedule.** Put your list of study tasks on the bulletin board or on the refrigerator each week so that everyone in your family knows what you need to accomplish that week. This will help get you motivated, keep you organized, and let your family know what you need to do.

❑ **Use a planner.** Use a planner to keep track of your assignments and schedule your study tasks. Having your Running List, "To Do" lists, and your Fixed Commitment Calendar all in the same place can help keep you organized. Checking your planner frequently can keep you motivated and organized throughout the day.

❑ **Make use of small blocks of time.** Use time between classes to get started on an assignment, edit notes, or review for a quiz. Instead of waiting for large blocks of time to do your work, break down your tasks and work on smaller portions of the assignment during fifteen-, thirty-, or even forty-five-minute time blocks throughout the day.

❑ **Study during breaks at work.** You'd be surprised at how much school work you can do during

breaks over a one-week period. You could read five pages of a chapter during lunch. You could review your word cards (flash cards for technical terminology) during a fifteen-minute break. You could even mentally review or quiz yourself on the material for an exam during a slow time at work.

❑ **Plan time with your family or friends.** Set aside time to spend with your family or friends each day or each week. Make this a regular part of your time-management schedule. During slow weeks or term breaks, plan special activities as a way of saying thank you for their support, patience, and help during the busier weeks.

❑ **Delegate some household tasks.** Unless you aren't planning to sleep, eat, or ever relax, you won't have time to do all your household chores when you're going to school. Do what you have to do and leave the rest for a slow week, day off, or even until term break. Ask your family to help out by doing some of the cooking, cleaning, or laundry. If each member of the family accepts just one task, you'll be amazed at the time you'll gain.

❑ **Learn to say no.** Believe it or not, I was a Girl Scout leader my first year in graduate school. As a mother, it was a great decision. As a returning student, it was a disaster. While you're attending college, you won't have time for many outside activities. When you do say no, explain that when you complete your education, you'll be happy to help out.

a pizza after finishing a tough assignment works for some students. Others work hard to complete their studying in time to go out with friends or watch a favorite television show. If you know that you want to watch "Monday Night Football," plan your work on Sunday and Monday so that you can be finished in time; then you'll be able to sit back and watch the game without feeling guilty.

MANAGE MULTIPLE PROJECTS

Many students have difficulty managing *multiple projects*—two or more exams, papers, or projects due during the same or overlapping time frame. For the purpose of this section, think of a project as an exam, a paper, a speech, or a project—a major task that you need to do that requires more time and counts for a higher percentage of your grade than your regular assignments. What happens when you have two exams on the same day or an exam, a quiz in a different class, and a paper due all in the same week? Have you ever worked hard to prepare for one exam, but “sacrificed” the other? Did you spend two or three hours preparing for a quiz only to realize later that you should have spent that time on the exam instead? Did you let a paper go until after your exams were over? If you answered *yes* to any of these questions, you may have a problem managing multiple projects.

Why Multiple Projects Cause Problems

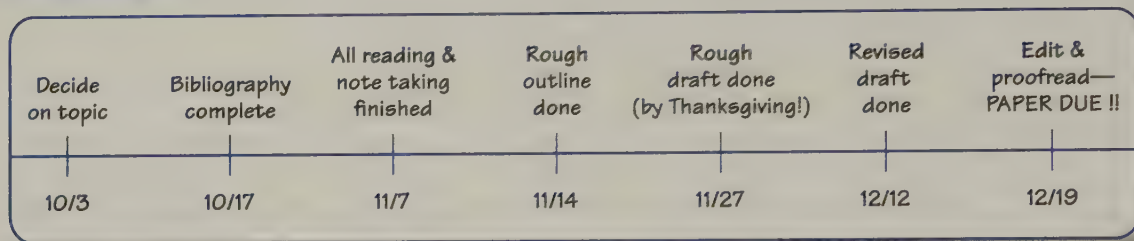
You may be used to preparing for one paper, project, or exam at a time. In fact, many students prefer finishing one task before beginning another. It's not easy to work on two or three or more projects at a time. Do you have difficulty setting priorities, staying on task, or keeping track of your materials? If you don't learn to manage multiple projects, you may find that you fall into the trap of sacrificing your grade on one exam to do well on another, or earn a low grade on one paper because you must do well on another.

How to Manage Multiple Projects

To successfully complete all of your work, you need to develop some new strategies for managing your time and organizing your materials. You need to develop a plan, learn to set priorities, set up a system, and monitor your progress.

Make a Plan

The first step in dealing with multiple projects is to make a plan for each of them. You may find it helpful to create a project sheet. Put the name of the project on the top and put the due date right underneath or in the top corner. Then write out what you have to do. Next, break the project down by listing each step on your sheet to create an action plan for your project. Finally, set target dates for each step and write them on your project sheet. If it's a long-term project, you may want to create a time line similar to the one in Figure 3.6. If you're preparing for exams, look ahead to Chapter 10 and you'll see that the Five-Day Study Plan incorporates many of these steps for preparing for an exam. Once you've developed your plan and your target dates for each of the steps, mark them on your Assignment Calendar. Think of them as due dates just like any of your other assignments.

FIGURE 3.6 Time Line for a Research Paper

Once you know what you need to do and when you expect to complete each part of your project, you need to think about when you're going to do it. One strategy for managing multiple projects is to separate them by the time you work on them. You could decide to work on one project in the morning, another every afternoon, and a third in the evening. Dividing the projects by time frames can help you keep them separate in your mind and keep you on task. Some students prefer to work on one project one day a week (perhaps every Sunday afternoon) or work on one on Mondays, Wednesdays, and Fridays, and the other on Tuesdays and Thursdays. Choosing to work on different tasks on different days of the week or during different times of the day can help you get them done and keep you more focused as you complete each task.

Set Priorities

Although you may be surprised to read this, sometimes it's smart to sacrifice your grade on one "assignment" to do well on another. How would you prepare if you had a quiz in one class worth 20 points out of 600 (about 3 percent of your course grade) and an exam in another class worth 25 percent of your course grade on the same day? Some students try to study for both, dividing their time between the two. However, a better solution would be to spend a much smaller amount of time on (or not even study for) the quiz and use that time instead to prepare for the exam. Earning a high grade on the exam is more important than earning a high grade on the quiz. However, if you have two exams on the same day, don't sacrifice the one to do well on the other. One of the biggest mistakes a student can make is studying for one exam and letting the other go (and hoping for the best). By using the Five-Day Study Plan, you can effectively prepare for multiple exams.

Develop a System

If you've ever worked on three papers at the same time or tried to prepare for five finals in the same week, you know that you need a system to get things done. You need to create a system to keep track of your materials, what you've done, and what you still need to do. For smaller projects, you may find that using a different color file folder for each project will work well. Then color code all of the materials related to that project. If you decide to color code your biology project red, choose

a red folder, use red index cards for your note cards, and use a red highlighter to color code your project sheet, action plan, and any articles that you photocopy on the topic. Again, use red to write the target dates on your Assignment Calendar or for your time line. If you're working on three papers or projects all due at or around the end of the term, you may need a larger space for your materials. You may want to use a file or box to hold all of your materials. Using one area of your desk or table for each project can also help you keep your materials separated and easily accessible. Post each of the project sheets on your wall or bulletin board above your file (or pile) and refer to them often to stay on task.

Monitor Your Progress

Making a plan and developing a system are good ways to start working on your projects, but they won't guarantee that you'll complete your projects. You need to monitor your progress on each task on a regular basis. Set up a regular time to review each of your projects. Pull out your action plans and check off the tasks you've completed and then add the next step to your Running List or daily "To Do" list. It's probably a good idea to meet with your professor every few weeks to discuss your progress (and make sure you're following directions) for long-term projects. Finally, adjust your project plan when necessary to accommodate delays (illness or an unexpected assignment) or if you're accomplishing your tasks more quickly than you anticipated. With a good plan, a system of organization, and some careful monitoring, you can manage multiple projects and achieve all your goals. An extra benefit of developing these new strategies is that they are the same type of strategies you'll find yourself using in the workplace—where everyone has to manage multiple projects.

REDUCE YOUR PROCRASTINATION

Procrastination, putting things off, is a common behavior pattern for many students. It's often the result of not wanting to start a task that seems difficult or time consuming. Unfortunately, procrastination can become a habit. The more you avoid the task, the more daunting it becomes; the more you tend to dwell on the negative aspects of the task, the more it's blown all out of proportion. After a while you may feel that you can't ever complete the task because you don't have the time to finish it.

Main Causes of Procrastination

According to Albert Ellis and William Knaus, the three main causes of procrastination are self-downing, low frustration tolerance, and hostility.² Learning more about each of these causes may help you learn to control your own procrastination problems.

²Albert Ellis and William J. Knaus, *Overcoming Procrastination* (New York: Signet, 1977), p. 16.

Self-downing

Self-downing refers to putting yourself down—telling yourself you can't do it or you're not smart enough. Your negative thoughts reduce your motivation and often lead to putting off the task you need to complete. If you set unrealistic goals, such as planning to study the entire weekend or getting an A in every class, you may begin to worry about whether you can really achieve them. When you don't complete tasks successfully the first time, you may begin to doubt your ability to succeed. This can result in procrastination or avoidance caused by self-downing.

Low Frustration Tolerance

A second cause of procrastination is low frustration tolerance. Students who experience *low frustration tolerance* are easily frustrated; they tend to give up or have trouble starting on a task when it appears to be difficult or too time consuming. Just the thought of having to read two fifty-page chapters may be enough to make some students procrastinate. Instead of getting to work, they may think, "It's too hard." Some students experience a great deal of frustration when they attempt to complete certain assignments or projects. Writing a twenty-page term paper for your Political Science class, for example, may seem overwhelming. The task may appear to be too difficult or require too much of your time, and just thinking about it may become a very unpleasant experience. Your low tolerance for frustration may lead you to put off the task and do something else instead. Before you know it, you've fallen into the procrastination trap. The next time you decide that you had better start that paper, you may experience even more feelings of anxiety and panic because by that time you have even less time available to complete it.

Hostility

Ellis and Knaus's third cause of procrastination is *hostility* toward others. You may put off doing that term paper because of your anger toward your professor. Comments like "He just expects too much of our class" or "She didn't even assign us that paper until two weeks before the end of the term" or "That assignment is so unfair" are indicative of angry feelings toward your professors. If you're angry at one of your professors for giving you a difficult assignment, because you received a poor test grade, or for embarrassing you in class, you may find it unpleasant to work on the assignment for that class. Your angry feelings can in fact increase your feelings of frustration about the task. Together, these feelings lead to procrastination.

Other Reasons Students Procrastinate

Some students put off studying for exams until it's almost too late. Have you? You may be procrastinating for another reason—to protect yourself from feelings of

inadequacy. By not studying well enough, you can protect your ego because you can blame your failure on your lack of preparation rather than on your lack of ability. For example, you might say, “Well, if I had studied, I would have gotten a B, but I just didn’t have time.” In this way you tell yourself that you could have done a good job if you had chosen to. Students procrastinate for many other reasons. Many times these reasons involve a lack of motivation or a lack of self-regulation.

Lack of Motivation

Some students procrastinate because they lack sufficient motivation to start or complete a task. As you read the following points, think about whether any of these reasons have caused you to procrastinate.

- **You weren’t successful the last time.** It’s hard to get motivated to start a particular assignment after receiving a low grade on a similar assignment. Earning a low grade can reduce your self-efficacy for the subject area or that type of task, resulting in lower motivation. When you don’t know what you did wrong or what changes you need to make to improve your performance, you may have trouble getting motivated to work on a similar task.
- **The task isn’t relevant.** It’s difficult to get started on tasks when you think they’re not relevant to your life. For example, some students are less motivated when working on tasks that are outside of the courses in their major. Are you? You may feel that you will never need to use that information or that skill again. That makes it easy to do something else instead.
- **The task lacks value.** Some students have difficulty seeing the value in some of the assignments they are given. If you view a task as busy work or decide that it has little or no value, it’s easy to put it off.
- **Lack of clear, specific goals.** When you haven’t set clear, specific goals—when you haven’t decided exactly what you want to accomplish—it’s easy to decide to do it later.
- **Unclear about what to do.** It’s easy to procrastinate on an assignment when you’re confused about the directions—when you aren’t sure what you need to do to correctly complete the assignment.
- **You’re tired or don’t feel well.** When you’re tired or aren’t feeling well, it’s easy to put off completing or even starting some of your work. It takes even more motivation to do your work when you aren’t feeling your best. A common thought is, “I’ll work on it later when I’m feeling better.”

Lack of Self-Regulation

Some students procrastinate because they still haven’t learned to be self-regulated learners. In most cases, these students do not use effective planning strategies to

schedule their study tasks. As you read the following points, think about whether any of these reasons have caused you to procrastinate.

- **Not planning ahead.** If you don't start on long-range assignments in advance, you may find that you're in a time crunch when the deadline is approaching.
- **Getting behind in your work.** Once you begin to put work off, things pile up. As your workload increases, it becomes even harder to get it all done.
- **Overscheduling.** When you plan more tasks than you can actually complete, you won't get them all done. This leads to putting some of them off to the next day. Then you have those tasks to complete along with new tasks, and that leads to procrastination.
- **There are better things to do.** Many students procrastinate because they seem to find better things to do with their time. Have you ever decided to clean your room, catch up on your e-mail, pay bills, or go out with friends instead of doing your assignments?
- **They're waiting for the perfect time, place, or mood.** Some students have difficulty starting an assignment because they are waiting for the perfect time or place to do it or aren't in the right mood. Have you ever felt that way about an assignment?

Strategies for Overcoming Procrastination

Because so many people have problems with procrastination, many books, articles, and websites are devoted to the topic. They include hundreds of suggestions for dealing with procrastination. Below, you'll find a number of strategies and techniques that will help you overcome procrastination related to your academic work. Try a few today.

Motivational Strategies

Many motivational strategies can help you overcome your procrastination problems. Getting started is often the biggest problem when students are not motivated. Try some of these strategies and see if they help you get started on your academic study tasks.

- **Just get started.** The best way to overcome procrastination is simply to get started—to take action. When you decide to work on your term paper or your English assignment, don't think about why you should or shouldn't do it—just start it. Do anything. Take out paper and write anything. Work for five to ten minutes. At the end of that time, you can decide whether you want to work for another ten minutes.
- **Use positive self-talk.** Tell yourself that you can complete the task, that you want to do it, and that you can be successful. Think about how completing the task will benefit you or help you achieve your goals. Telling yourself that it's too hard, too big, or that you won't do it right leads to procrastination. Using positive self-talk helps you get started now.

- **Set realistic goals.** If you set reasonable expectations for yourself, you're more likely to accomplish your goals and less likely to have negative feelings about your capabilities.
- **Clarify the directions.** Make sure that you know how to do the assignment before you begin. If you're unsure, check with the professor, a tutor, or another classmate. It's hard to get started when you really aren't sure what it is you're expected to do.
- **Start with the easiest part of the task.** Do the easiest part of the assignment or only a small part of it. Once you start the assignment, you're likely to continue. Remember, getting started is half the battle.
- **Break down large tasks.** Breaking down large tasks makes them appear less difficult and time consuming. It's always easier to get yourself motivated to do a small task. Remember how much easier it was to read ten pages of the chapter than the fifty pages that were assigned?
- **Recognize that not all assignments are easy.** You will have assignments that you don't like or enjoy. Some will be difficult or time consuming. Accepting the fact that not all your tasks will be pleasant experiences will help you approach them more willingly.
- **Recognize that all courses are relevant.** Learning to see the relevance of your courses and assignments also can motivate you to do your work. Too many students think of college as something to do in order to get a job. A college education will help prepare you for a career, but it is also your opportunity to build skills and become an educated person—something that will serve you well in any career.
- **Plan rewards.** Planning to do something you really enjoy after completing a task you don't like may help you overcome your tendency to procrastinate.

Self-Regulation Strategies

If you tend to procrastinate on your study tasks because you would rather go out and have fun, or because you have home or work obligations, you need to learn some planning strategies:

- **Complete an Assignment Calendar.** If you know what you have to do and when it has to be completed, you'll be more organized. Write each of your assignments on an Assignment Calendar and check it regularly to schedule your study tasks.
- **Create "To Do" lists.** Putting your tasks in writing helps you see exactly what you must accomplish and strengthens your commitment to completing your work. Adding a specific time to begin each of your tasks will help you organize your study time and avoid procrastination.
- **Schedule your personal tasks, too.** You can make time in your schedule to complete your personal and your academic tasks. However, if you don't plan exact times to complete your personal tasks, you'll be tempted to do them instead of working on your academic tasks, especially when there is an assignment that you want to avoid.

- **Set priorities.** If you complete your most important tasks first, you won't feel as though you have failed or let yourself down when you can't get everything done that day.
- **Avoid overscheduling.** Estimate how much time it will take to complete your daily tasks. If you plan only what you can accomplish in the time you have available for study, you won't have a long list of tasks to carry over to the next day.
- **Identify escapist techniques.** You also can help yourself avoid procrastination by identifying your *escapist techniques*—things you do to keep from doing your work. Do you suddenly decide to clean the house, take a nap, check your e-mail, watch television, or visit a friend when you should be doing assignments? You may find that you aren't even aware that you're trying to avoid doing your work; you may not discover these procrastination patterns until you actually look for them.















SUMMARY

Good time-management strategies are crucial to your college success. Evaluating how you use your time now is the first step to achieving good time management. Keeping a Time Log will help you get a better picture of any time-use problems that you have. Complete a Fixed Commitment Calendar to see how much time you actually have available for study tasks. Then set up an Assignment Calendar so that you get a semester view of your workload and important due dates for each of your courses. Preparing a Running list and daily “To Do” lists will keep you organized and up to date with your work. Taking breaks, switching subjects, and planning rewards are just a few of the strategies that will keep you motivated when you schedule your study tasks. Learning to manage multiple projects will help you be more successful in college. Many students fall into the procrastination trap. Understanding the real reasons for procrastination will help you learn why you may procrastinate in certain situations. Using motivational and self-regulation strategies will help you break the procrastination cycle. If you use good time-management strategies, you can stay up to date on your course assignments, have time for relaxation and other responsibilities, and eliminate the stress and panic that often result from not getting your work done.


ACTIVITIES




1. As a group, talk about how much time you think students should spend in various activities during a typical week in college. Then record your results in column A of the Consider Your Use of Time chart (available on the *Orientation to College Learning* Web site). You may need to add a couple more categories or substitute the titles of a few activities. Remember, the column should total 168 hours. Next, think about how you as an individual will spend your time. Complete column B individually. Finally, after completing your Time Log (in Activity 2), record your totals in column C and compare your time estimates to how you actually spent your time.


-  2. Complete a Time Log (available on the Web site) for one week. Count the total hours spent in class, working, eating, sleeping, commuting, completing personal tasks, studying, texting, surfing the Net, watching television, socializing, and so on. Then complete the Time Log Evaluation Sheet available on the Web site. What changes do you need to make in the way you use your time? What's your motivation for making those changes?
-  3. Complete a Prospective-Retrospective Calendar (available on the Web site) each day for one week to monitor how well you can stay on a schedule. Put a checkmark in the margin if you did what you planned to do; put a minus sign in the margin if you didn't. Evaluate your results. Each day count up the number of minus signs and set a goal to have fewer the next day.
-  4. Use the Time Needed for Study Chart (available on the Web site) to calculate the time you need for study. Be sure to consider the credit value, grade goal, and the difficulty level of each of your courses to decide on the study ratio. Determine the number of hours you need for study for each course, and then for the entire week.
-   5. Complete the Fixed Commitment Calendar (available on the Web site). Calculate the time you have available for study and compare it with the time you need for study. Share your results with a group of your classmates. Do you need to make changes in your time plan?
-  6. Purchase a blank Assignment Calendar or download copies from the Web site. Write in the months and dates for the entire semester. Then use your course syllabi to list all your assignments on the calendar.
-   7. Make a list of your study goals for tomorrow. Don't forget to break down long assignments into manageable units. Then refer to your Fixed Commitment Calendar and schedule your assignments into appropriate time blocks. Make a list of the strategies that you used to stay motivated throughout the day. Take your plan to class and discuss it with a group of your classmates. Did anyone have suggestions to improve your plan?
-   8. Create a plan for managing multiple projects. Look ahead at your syllabi or your Assignment Calendar, if you've already completed it, and identify a week where you have to complete multiple projects. Briefly describe the projects, when each is due, and the percentage of your grade that they represent. Write the information for each project on an index card and take the cards to class. In class, work with a group to discuss how each member should manage his or her multiple projects. On the back of each card, develop a brief plan including a time frame, a system of organization, and a priority level for each project.
-   9. Go to the *Orientation to College Learning* Web site and follow the link in Chapter 3 to the University of Texas Procrastination Quotient online evaluation tool. After answering each of the questions, score your responses.
-   10. Now that you've completed Chapter 3, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW

 **Terms You Should Know:** Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.

 **Completion:** Fill in the blank to complete each of the following statements. Then check your answers on the Web site.


1. The first step in good time management is _____ how you use your time now.
2. You need to spend almost one _____ of your time each week on academic tasks if you are a full-time student.
3. The average student spends about _____ hours outside of class for every hour in class to complete assignments.
4. Completing a _____ Calendar will help you determine how well you can stick to a schedule.
5. The best way to overcome problems with procrastination is simply to _____.

 **Multiple Choice:** Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. You can determine your time available for study by completing a
 - A. Time Log.
 - B. Fixed Commitment Calendar.
 - C. Assignment Calendar.
 - D. Prospective-Retrospective Calendar.
7. Which of the following is *not* one of the three main causes of procrastination?
 - A. Self-downing
 - B. Low frustration tolerance
 - C. Feelings of inadequacy
 - D. Hostility

Short Answer/Essay: On a separate sheet, answer each of the following questions:

8. Describe the four factors that influence how much time you need for study.
9. How can time-management strategies keep you motivated?
10. What are five strategies that students can use to overcome problems with procrastination?

 **Tutorial Quiz:** Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Memory and Learning

CHAPTER

4

Understanding
Memory
Processes

Why You Need
Memory
Strategies

**MEMORY
AND
LEARNING**

Specific
Memory
Strategies

General
Memory
Strategies

"It is much easier to memorize when you use acronyms. I've used acronyms for as long as I can remember, starting with ROY G. BIV (the color spectrum: red, orange, yellow, green, blue, indigo, violet). I find doing these types of activities really helps, and it seems the more ridiculous the mnemonic, the easier it is to remember—especially when I'm experiencing test anxiety. Also, overlearning and spaced study have really been paying off for me by helping to reduce forgetting."

Jen Perry, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Acronyms

Acrostics

Affective and motivational strategies

Chunk

Comprehension monitoring strategies

Consolidation

Cue

Elaboration strategies

Elaborative rehearsal

Encoding

Immediate memory

Information Processing Model

Massed practice

Method of Loci

Mnemonic devices

Organizational strategies

Overlearning

Rehearsal strategies

Retrieval

Sensory memory

Sensory registers

Spaced practice

Storage

Working memory

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you often know the answer to a question but find that you can't think of it?	_____	_____
2. Do you organize or group information to help you remember it?	_____	_____
3. After you study, do you go back and test yourself to monitor your learning?	_____	_____
4. Do you study by reading over your notes a few times before an exam?	_____	_____
5. Do you space your practice when reviewing information?	_____	_____
6. Do you try to memorize all the information that you need to know for an exam?	_____	_____
7. Do you often find that you get confused by closely related information?	_____	_____
8. Do you often forget a lot of the information that you studied by the time you take the test?	_____	_____
9. Do you ever remember exam answers after the exam is over?	_____	_____
10. Do you try to remember information just by making up a rhyme, word, or other memory aid?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 2, 3, and 5, and 1 point for each *no* answer to questions 1, 4, 6, 7, 8, 9, and 10. Total up your points. A low score (0–4) indicates that you need to improve your memory strategies. A score of 5 to 7 indicates that you are using some good memory strategies but not others. A high score (8–10) indicates that you are already using many good memory strategies. What did you learn about yourself by completing this activity?

UNDERSTANDING MEMORY PROCESSES

Doing well on exams requires an effective study plan, active study strategies, and a good memory. What you typically think of as learning involves storing information in your memory so that it will be available later when you need it. In this chapter, you'll gain a better understanding of how information is learned. This will help you understand why you need to use a variety of active learning strategies to learn and retain course material. "Having a good memory" involves both putting information into memory and getting it back out—both storage and retrieval. Can you recall a time when you thought you had studied a particular topic well enough that you knew it for the exam, only to find that you couldn't remember the information during the test? Perhaps you never really got the information into your long-term memory, or perhaps you simply were unable to recall it when you needed to. Why do we forget? How do we learn? Many students really don't understand how memory works. Do you? Learning about how you store and retrieve information will help you understand why some study strategies work and others don't. Over the years, psychologists have tried to develop theories to explain how memory works. One of the most useful of these is the Information Processing Model.

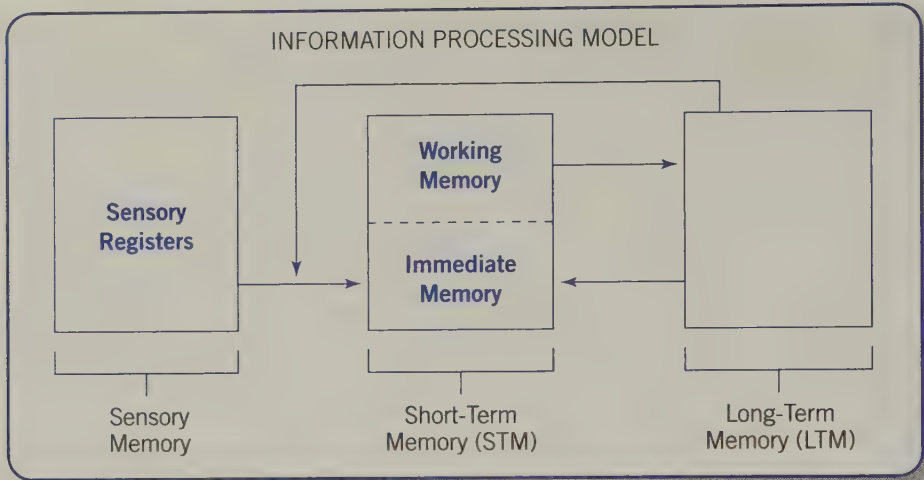
Information Processing Model

The *Information Processing Model* suggests that memory is complex and consists of various processes and stages. For example, there are at least three types of memory: sensory memory, short-term memory (STM), and long-term memory (LTM). In addition, there are three important memory processes: encoding, storage, and retrieval. Figure 4.1, which was adapted from a model developed by Bourne, Dominowski, Loftus, and Healy,¹ shows the three types of memory (represented as boxes) and the memory processes (represented as arrows).

To learn and remember, we must encode, store, and retrieve information. The first step in this process is *encoding*—interpreting information in a meaningful way. Suppose you want to remember what a cloud looks like. Clouds are amorphous (without a definite shape) and lack any clear structure. You might find it difficult to remember exactly how a cloud looks after observing it briefly. However, if you notice that the cloud looks somewhat like an elephant, you'll be better able to remember its shape later simply by picturing an elephant. To be remembered, information must be encoded; it must be interpreted in a meaningful way.

The second step in the memory process, *storage*, involves working on (for example, rehearsing and organizing) information so that it can be placed into LTM.

¹L. E. Bourne, R. L. Dominowski, E. F. Loftus, and A. F. Healy, *Cognitive Processes*, 2nd. ed. (Englewood Cliffs NJ: Prentice Hall, 1986).

FIGURE 4.1Information
Processing Model

Information doesn't automatically move into LTM unless you work to store it there. Much of what you think of as studying involves storage processes.

The third step, *retrieval*, involves getting information out of LTM. As you'll see, retrieving a memory is very much like going into your basement to find the badminton set that you know is there, somewhere—you may have to hunt for a while, but eventually you'll find a clue that will lead you to it.

Sensory Memory

You probably have heard about short-term and long-term memory. However, *sensory memory*, also known as the *sensory registers*, may be new to you. Essentially, our senses (vision, hearing, smell, taste, and touch) are always very busy. We hear, see, smell, taste, and touch hundreds of stimuli each moment. Most of these stimuli are unimportant and are therefore quickly forgotten. If you want to remember something, you have to pay attention to it or it will be quickly forgotten. Have you ever found yourself daydreaming in class? When you're daydreaming or thinking of something else, you aren't paying full attention to what the professor is saying. Without attending to the information presented, you can't process that information through the sensory registers. In the same way, if you're trying to read a text chapter and watch television at the same time, you may find that you won't remember much of what you read (or much of the TV show). To complete a new or difficult task, you must pay full attention to it. Anderson found that we can only pay attention to one cognitively demanding task (one that requires thinking) at a time.²

²J. R. Anderson, *Cognitive Psychology and Its Implications*, 4th ed. (New York: Freeman, 1995).

Short-Term Memory

Once you decide you want to remember something, you immediately have to move it into short-term memory. This process is represented by the arrow in Figure 4.1 that goes from the sensory registers to the immediate memory. However, to do this, the material must be encoded—you must make it meaningful. Short-term memory has two components: immediate memory and working memory.

Immediate Memory. *Immediate memory* is related to the concept of consciousness. Whatever you currently are thinking about is in your immediate memory. Think of your immediate memory as being similar to a small desk. During a two-hour study session, you may work on several tasks at your desk. However, because your desk is very small, you can place only a limited amount of material on it at any one time. If you want to work on something new, you need to move aside the material on which you were just working. Immediate memory is similar to this because you can remember only the material that is “sitting on your desk” at any one time. Because immediate memory is very limited, you typically can retain only about seven (plus or minus two) chunks of information on your “desk.” A *chunk* is a group of familiar stimuli stored as a single unit.³ Furthermore, without continual rehearsal, those seven chunks can stay on the “desk” for only twenty to thirty seconds before they slip away.

Working Memory. To hold on to information and get it into your long-term memory, you must first move the material into the other part of your short-term memory, the *working memory*. This part of the memory system is aptly named because you really have to “work” on the material to make it meaningful, memorable, and easy to retrieve. When you’re studying for a quiz or test, you’re using your working memory. You can use a variety of strategies to move information into your LTM, but they all have one thing in common: The harder you work on the material, the greater the probability that you’ll put the material into LTM in a place where you can find it again.

You need to use active learning strategies to move information into long-term memory. Just reading over material a few times may have worked in high school, but it won’t work as well in college. One big difference you’ll face is a longer time frame between exams. Another major difference is the large amount of information you need to know for an exam in college. The strategies presented in the second half of this chapter and those in Chapter 10 will help you process your course information into long-term memory in a way that you’ll be able to recall it during your exam.

³From W. Weiten, *Psychology: Themes and Variations*, 7th ed. (Belmont, CA: Wadsworth, 2007).

Long-Term Memory

Once material has been processed in working memory, it can be moved into long-term memory (represented in Figure 4.1 by the arrow going from working memory to long-term memory). Long-term memory has an almost unlimited capacity. We have not yet discovered anyone who has completely filled his or her LTM. In fact, the more we learn, the more capacity for learning we appear to have. Building long-term memories appears to provide a structure for adding new memories. LTM also is remarkable because we appear to hold on to most of our memories indefinitely. We also rely on our LTM to encode new information. You couldn't identify a cloud shaped like an elephant if you didn't already have prior knowledge of an elephant in your LTM. This process is represented in Figure 4.1 by the arrow that starts at long-term memory and points to the encoding arrow—the arrow that connects the sensory registers to the immediate memory.

Long-term memory can be compared to a warehouse full of filing cabinets. The cabinets in the warehouse and the material within the cabinets are arranged in a logical order; each cabinet drawer is labeled, and there are dividers within each drawer. Materials (memories) are placed in specific folders, in specific sections, in specific drawers, in specific file cabinets, in specific sections of the warehouse. However, the warehouse (your LTM) is enormous. Unless the material is carefully classified, labeled, and placed in the correct file, it can easily be lost. Once material is misfiled, or just poorly labeled, classified, and filed, it's much more difficult to retrieve. When material isn't well classified, you must resort to searching through all the various files where you might have stored the material. In that case you would be very lucky to find it quickly, and it's just as likely that it could take a considerable amount of searching before you find it. If you need to remember important information for an exam, you'll be much better off if the information has been carefully "filed" in your LTM for easy retrieval.

WHY YOU NEED MEMORY STRATEGIES

Now that you understand how information is encoded, stored, and retrieved, you may wonder why you need to learn specific strategies to aid your memory. According to Kenneth Higbee, "remembering is hard work, and memory techniques do not necessarily make it easy, they just make it more effective."⁴ To perform well in college courses, you need to use strategies that aid the acquisition, retention, and retrieval of the information that you want to learn. In college, learning to get information out of memory is just as important as learning to put

⁴Kenneth L. Higbee, *Your Memory: How It Works and How to Improve It*, 2nd ed. (Cambridge, MA: De Capo Press, 1996), p. 5.

that information into memory. Let's try an experiment to find out what kinds of strategies you already use: Can you name all fifty states? Write down the first ten that you can remember in the margin of your text, then read the remainder of this page.

How did you remember the states that you wrote down? What method did you use to remember them? Look at the first couple of states that you listed. Do they follow some type of order? Some students use alphabetical order to list the states. Is that what you did? Others use a geographic order like Maine, New Hampshire, Vermont, or Washington, Oregon, California. Although these are the two most common ways that students tend to remember the states, many students use other strategies. What strategies did you use? How you remembered the states really isn't important. The important thing is that most of us use some strategy to recall information that we probably learned many years ago.

If you learned the states in alphabetical order, it's easier for you to retrieve that information alphabetically than geographically. On the other hand, if you learned the information geographically, by way of maps or travel, you may find it difficult to list the states alphabetically. From this exercise, you should have learned that the method you use to organize information during study will in some way determine how effectively you can retrieve that information. In addition, the more associations you develop for particular information, the easier it will be to retrieve.

Retrieval and Forgetting

Once you learn something, it remains in your long-term memory almost indefinitely. However, we all forget things. Why do you remember some information but forget other information? Why can you remember the answer to a question when you practice it but have difficulty remembering it during the exam? There are a number of memory problems that lead to forgetting.

- **Never really learned it.** Many students believe that reading over (or looking over) the material once or twice is an effective way to study for an exam. Unfortunately, the vast majority of the material never even makes it into long-term memory because reading over (or looking over) information is a passive strategy that only works for simple tasks such as memorizing short lists of information. College exams tend to cover large amounts of very complex information that students need to understand rather than memorize. Also, most students actually need a lot of practice (many rehearsals) to store information in long-term memory in such a way that they will be able to find it again.
- **Not understanding the information.** Even if you practice information seven or eight times, you can't learn it if you don't really understand it. You may have some visual memory of some of the information and would be able to

recognize it on the exam if the professor worded the answer exactly as it appeared in your text or notes, but you won't be able to identify the answer if it's phrased differently.



Peanuts © United Feature Syndicate, Inc.

- **Cramming.** When you cram for a test, you try to learn all of the information during one long study session. This often leads to practicing the information only one or two times. Although you may move some of the information into memory, you probably won't have time to store it in an organized way. You may find that during the exam, you remember having studied the information but can't locate it in long-term memory within the time constraints of the exam.
- **Stored with too few cues.** If you learn something, it's available to you in your LTM; however, it may not be accessible. To access a memory, you need to know how to find it. Many times you need a key term, or what psychologists call a *cue*—a label, a hook, or link to the information—to unlock the memory. Memories that you use frequently typically are stored with a number of cues, making them easier to recall. However, at times you store memories with only one or two cues. If your professor doesn't include the exact cue (key word or phrase) in his or her question or one of the answers, you may not be able to locate the information in your long-term memory. Although you stored it, you won't be able to find it.
- **Interference.** Studying closely related information often leads to interference. You reach into your long-term memory storehouse and pull out one piece of information instead of the other. In order to reduce interference, you need to clearly separate closely related information. You can do that by creating separate cues and by self-testing to be sure that you know the difference between similar terms or concepts.
- **Test anxiety.** Test anxiety also affects retrieval. When you're anxious, it's more difficult to remember cues and retrieve information because anxiety affects your ability to focus and concentrate. Many of us have had the experience of being unable to recall an answer during an exam and then remembering the material once the exam is over and our anxiety is reduced.

GENERAL MEMORY STRATEGIES

The following general strategies can help you acquire, retain, and retrieve course information.

Spaced Practice

There are many benefits to using spaced practice instead of massed practice. *Spaced practice* involves spacing your study time over a longer period, with breaks between practice sessions. *Massed practice*, like cramming, involves studying all the material at one time. Research studies have shown that you'll retain more information if you study for eight hours over four days (spaced practice) instead of eight hours at one time (massed practice).

Studying for short periods of time, such as one- or two-hour time blocks, prevents boredom, helps avoid fatigue, and improves concentration and motivation. If you space out your study over a period of days (see the Five-Day Study Plan in Chapter 10 for more information on how to space your study), you gain additional benefits. First of all, you delay forgetting. As pointed out earlier, even when you think you've learned the information, some of it usually is forgotten. By self-testing as you review the same material closer to the exam date, you can find out what you've forgotten and work on it again. In addition, you benefit by reviewing and reinforcing the information that you previously studied.

Spaced practice, or distributed practice (as it is also known) allows time for the information to consolidate or jell in long-term memory. During *consolidation*, information is organized and stored in LTM. If you try to shove too much information into memory at one time, you won't be able to retrieve very much of it. One explanation for this is that the longer you study, the more inhibitions you develop (feeling tired, bored, and so on) that decrease your efficiency for storing the material in LTM. With massed practice, you may get to the point where you're just reading over the material rather than "working on it" to learn it. Allowing breaks between learning sessions gives you time to think about what you've been studying and to structure or organize it according to what you already know about the topic.

Break Tasks Down

Instead of trying to learn all of the material for your exam at one time (cramming), study only one or two chapters (and the accompanying lecture material) each day. When you study small chunks of material at one time, you can do a better job of getting it into LTM. It's easier to stay focused and actively involved in your learning when you don't feel as if you have to learn all of the information at one time. You'll be more willing to take the time to use active learning strategies such as creating study sheets, predicting test questions, making word cards, reciting the information in your notes, or testing yourself on the material. Breaking down study tasks

and organizing and storing small units of material increases the likelihood that you'll efficiently and effectively store the material in your LTM.

Repetition

Do you play a musical instrument? Have you ever? Did you ever play in a recital or a concert? How many times did you practice a new, rather difficult piece of music before that recital? Most of my students indicated that they practiced a lot (many forty or more times). Many said that they practiced every day for weeks and often several times a day. When I asked them why they didn't just practice it once, they replied that they wouldn't have known it well enough to play it perfectly. Do you feel the same way? If you don't play a musical instrument, think of a similar experience. Maybe you participated in sports or debating, or were in the school play. I'm sure you practiced a new play, answers to possible questions, or your lines many times. You need to think of learning material for a college exam in much the same way.

Unfortunately, you can't learn information by repeating it only one time. If you only had a few things to remember for an exam and they were very simple things, you might be able to look over them once before the exam and remember them. However, there is so much information to learn for college exams and so much complex material to master that you need a great deal of repetition to learn it all. Each time you write, recite, or even think about a particular concept, you practice opening one of those drawers in your LTM filing cabinet and putting that information in the correct folder. The more times you open that same drawer and pull out that same folder, the easier it is to do it the next time; you know just where to go in the LTM warehouse and exactly where in the filing cabinet to look. If you continue to practice that same material over a period of days, you'll be able to strengthen and maintain your memory of it.

Overlearning

Overlearning is an important strategy for test preparation. *Overlearning* involves continuing to work on material even after it's learned—after it's stored in LTM. Many students stop practicing the answers to questions or the definitions of terms when they get them correct. However, if you continue to practice the ones you got right at the same time you practice the ones you got wrong, you'll overlearn some of the information (the ones you got right). Each time you rehearse the material or quiz yourself on it, you reduce forgetting and strengthen the path to your LTM. Overlearning may also lead you to review the material in other ways, so you may form different cues for, or associations with, the material. You may even find that as you continue to work on the material, you gain a better understanding of it. Overlearning information will also help you retrieve the information more quickly, especially if you practice by self-testing—because you are practicing using the cues you created to find the answers in your LTM.

Overlearning also can help you cope with test anxiety. If you're worrying about an exam, you may have difficulty identifying or remembering the cues that you need to locate the information. Overlearned material is less susceptible to the debilitating effects of anxiety because it's so firmly embedded in LTM. You can count on overlearned information to help you get started during the exam. If you experience test anxiety in some of your classes, you should overlearn at least 25 percent of the material. During the exam, look for the questions that cover that material and do those first. Not only will you maximize your score, but it will help you reduce your test anxiety. By the time you answer all of the ones you know, you'll feel more confident and less anxious about the test.

SPECIFIC MEMORY STRATEGIES

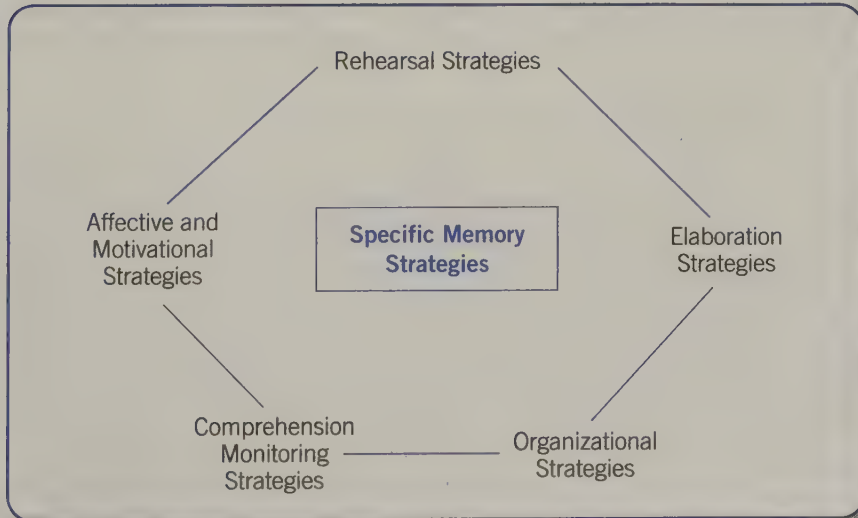
Besides the general strategies described earlier, many specific learning strategies are effective for helping you learn and remember. Weinstein and Mayer describe five groups of learning strategies: rehearsal strategies, elaboration strategies, organizational strategies, comprehension monitoring strategies, and affective and motivational strategies.⁵ Each category includes a variety of learning strategies that can be used to improve the various memory processes (Figure 4.2).

Rehearsal Strategies

Rehearsal strategies involve practicing the material until it is learned. As you learned in the last section, learning information requires a great deal of repetition.

FIGURE 4.2

The Five Groups of Learning Strategies



⁵C. F. Weinstein and R. F. Mayer, "The Teaching of Learning Strategies," in M. C. Wittrock, Ed., *Handbook of Research on Teaching* (New York: Macmillan, 1986).

All learning strategies involve rehearsal of some type, but there are two different types of rehearsal strategies.

Low-Level Rehearsal Strategies

Reading over material a few times, saying it over and over again, or even copying it several times are examples of low-level rehearsal strategies. They work well for very simple tasks, such as recalling a short list of things. How did you study your spelling and vocabulary word lists in elementary school and junior high? If you wrote them ten times each or recited them over and over again, you were using low-level rehearsal strategies. You may have studied for many of your high school exams by simply reading over the material two or three times until you felt that you knew it. Here again, you were using low-level rehearsal strategies. Although these rehearsal strategies are quite effective for learning simple lists or remembering easy-to-recall information, they're not as well suited to some of the more complex learning tasks that you need to use for college classes.

Simply repeating information doesn't always mean that you'll learn it. Take a minute and read the following lines a few times.

Le matin le train est toujours bondé. Quand le train arrive à sa gare il en descend et il monte l'escalier.

Now look away from the text and try to repeat the lines. Can you? If you're fairly fluent in French, you may have been able to do so. However, if you don't understand French, you couldn't understand what you just read, so you won't be able to remember it. By the way, the translation is "In the morning the train is always crowded. When the train arrives at his station, he gets out and goes up the stairs."

High-Level Rehearsal Strategies

High-level rehearsal strategies such as outlining, predicting test questions, and creating charts and concept maps involve *elaborative rehearsal* (repetition that involves making the information meaningful). When you use high-level rehearsal strategies, you're operating on the material—you may be adding information that you already know, organizing the material in a way that's more memorable to you, or creating additional cues to help you locate and recall the material in LTM. In the next chapter you'll learn how to generate questions in the margin of your notes. To make up even one question, you have to reread, think about the material, restructure it, and write it—all of which provides you with a significant amount of rehearsal. You're also using high-level rehearsal strategies when you recite information from your questions in the margin or from your word or question cards, explain information in your own words, answer review questions, or take self-tests. In a recent study, students who used the high-level rehearsal strategies learned and remembered the information better than those students who used the low-level

rehearsal strategies. The students who generated questions about the material or took notes outperformed students who simply read or copied the material when they were given the same test.⁶

In Chapter 10, you'll learn other high-level rehearsal strategies, such as creating study sheets and making self-tests. Just about any strategy that you use to prepare for a quiz or test involves rehearsal. The key, though, to effective rehearsal is combining your review of the material with one or more of the organizational, elaboration, comprehension monitoring, or motivational strategies that are presented in the remainder of this chapter.

Elaboration Strategies

Elaboration strategies involve expanding on the information, forming associations, or connecting new information to what you already know. Paraphrasing, summarizing, explaining, answering questions, forming mental images, and using mnemonics (ni-mon-iks) are all elaboration strategies. Effective note taking requires you to embellish or refine what the professor or the author has said. When you take notes in your own words and add comments or make connections, you're using an elaboration strategy. One of the chief advantages of elaboration strategies is that they help you create more associations with the material to be learned, thereby providing you with more routes (cues) for getting to the information during retrieval. Taking notes, explaining the material out loud, and creating questions in the margin are examples of elaboration strategies that you may already be using.

Mnemonic devices or techniques often are referred to as memory tricks. However, many of these techniques aren't tricks at all. They are, instead, techniques that can help you remember things you can't seem to remember any other way. The advantage of mnemonic devices is that they form an association with the material; if you remember the mnemonic, you remember the material. Mnemonics provide an organizational framework or structure for remembering information that may not appear to have a structure of its own.

This brings up a very important point. Mnemonic devices are aids to retrieval, but just making one up doesn't mean that you've learned the material. You can't just decide that you're going to remember Weinstein and Mayer's five categories of learning strategies by remembering the word "REOCA" (Rehearsal, Elaboration, Organizational, Comprehension monitoring, Affective and Motivational). Before you can use "REOCA" to help you list or discuss these strategies, you have to practice the connection between the mnemonic and the information to be learned. Although this section focuses on the use of mnemonics, it's important to remember

⁶D. Van Blerkom, M. Van Blerkom, and S. Bertsch, "Study Strategies and the Generation Effect," *Journal of College Reading and Learning*, 37 (1) (2006): 7–18.

that you must use the other high-level rehearsal strategies to learn the information. You can then use mnemonics to help you retrieve what you've learned.

According to Kenneth Higbee, "A mnemonic system may help you in at least three ways when you're trying to find items in your memory: (1) It will give you a place to start your search, a way to locate the first item. (2) It will give you a way of proceeding systematically from one item to the next. (3) It will let you know when your recall is finished, when you have reached the last item."⁷ Did you use the mnemonic "HOMES" to help you remember the names of the five Great Lakes? The "H" tells you where to start your search (Huron), the "OME" help you progress through your search (Ontario, Michigan, Erie), and the "S" tells you that you're done (Superior). You'll learn more about how to make those connections and use mnemonics as retrieval aids as you examine the use of associations, acronyms, acrostics, and imagery.

Associations

When you form associations with the material, you can create additional cues to aid your recall. When I was in eighth grade, we were studying longitude and latitude in geography class. Every day for a week, we had a quiz, and I kept getting longitude and latitude confused. I went home and almost cried because I was so frustrated and embarrassed that I couldn't keep them straight in my mind. I stared and stared at those words until suddenly I figured out what to do. I told myself, when you see that *n* in longitude it will remind you of the word *north*. Therefore, it will be easy to remember that longitude lines go from north to south. It worked; I got them all right on the next quiz, and the next, and on the test.

When I told this story in class, some of my students laughed because it seemed silly to them that anyone could get longitude and latitude confused. However, some of us do get confused about things that may seem simple to others. It's very easy to become confused by closely related information. Mnemonic devices help you know for sure which choice is correct.

Acronyms, or Catchwords

Acronyms are "words" that are made up of the first letters of other words. Acronyms are so commonly used today that most of us don't even realize that some aren't real words. SCUBA, NASA, FBI, and COD are all quite familiar. We don't even think of them as standing for self-contained underwater breathing apparatus, National Aeronautics and Space Administration, Federal Bureau of Investigation, and cash on delivery; they all are well understood in their abbreviated form.

John Langan used the term *catchword* to describe an acronym.⁸ In a sense, acronyms do help us catch or hold on to the information that we have learned. Catchwords, or acronyms, can be real words or nonsense words designed to aid

⁷Kenneth L. Higbee, *Your Memory: How It Works and How to Improve It*, 2nd ed. (Cambridge, MA: De Capo Press, 1996), pp. 132–133.

⁸J. Langan, *Reading and Study Skills*, 4th ed. (New York: McGraw-Hill, 1989), p. 207.

recall. You probably can name all of the colors in the spectrum because someone taught you to use the catchword “ROY G. BIV” (red, orange, yellow, green, blue, indigo, violet). “REOCA” also is an example of a catchword; each letter stands for the first letter in a list of other words. Can you say them now? Try it.

How to Create Catchwords. Catchwords are useful for remembering lists of information. To create a catchword or acronym, use the following six steps:

1. Make a list of the information that you need to learn.
2. Select a key word to represent each piece of information. This should be an important word that will serve as a cue to memory.
3. Underline or write down the first letter in the margin.
4. Form a catchword by rearranging the letters.
5. Practice associating the catchword with the material by rehearsing the connection.
6. Use the catchword to retrieve the key words from memory and then use the key words to recall the information you needed to learn.

Let’s look at an example. Five of the general principles of nonverbal communication are listed below. Create a catchword to remember them.

1. Nonverbal communication is multichanneled.
2. Nonverbal communication conveys emotions.
3. Nonverbal communication is ambiguous.
4. Nonverbal communication may contradict verbal messages.
5. Nonverbal communication is culture-bound.⁹

To make an acronym or catchword, you first have to identify a key word in each statement. Go back and underline the following words: *multichanneled*, *emotions*, *ambiguous*, *contradict*, and *culture-bound*. These words should work well as cues to help you remember the entire list of principles. Next, list the first letter of each word in the margin: M, E, A, C, C. “MEACC” doesn’t sound as though it will be very memorable, but by simply rearranging the letters you could form the catchword “MECCA” or “CAMEC.” Both of these are fairly easy to recall.

Your work isn’t done, though. Can you list the five general principles of nonverbal communication? Just creating the catchword doesn’t mean that you’ve learned the material. To strengthen the associations and learn the material, you need to practice connecting the catchword to the key word and then the key word to the entire phrase. Reciting or writing will help you form the connections. If I were going to use the catchword “MECCA,” I would rehearse the information this way: “M” stands for *multichanneled*, and *multichanneled* stands for *nonverbal*

⁹From Weiten. *Psychology Applied to Modern Life*, 7E. © 2003 Wadsworth, a part of Cengage Learning, Inc. Reproduced by permission. www.cengage.com/permissions

communication is multichanneled. “E” stands for *emotions*, and *emotions* stands for *nonverbal communication conveys emotions* (and so on). You need to practice this connection several times. Of course, you still have to be sure that you understand what the terms *multichanneled* and *emotions* mean in this context.

Students who say that mnemonics don’t work for them often think that simply constructing the mnemonic should firmly embed the information in long-term memory. Unfortunately, the mere construction of a word or phrase doesn’t replace learning the information. Your catchword will help you retrieve the information from memory only *after* the information is learned. Take a look at how some students used catchwords to remember course material (Figure 4.3).

FIGURE 4.3

Student Examples
of Catchwords

Swinburne’s and Aquinas’s Views

Swinburne—SWOMP

S	simultaneously
W	within time
O	own actions
M	mutable
P	personable

Aquinas—ICON

I	immutable
C	continuum
O	omniscient
N	not in time

Kwan’s Catchwords

FASCISM

1. Authoritarian governments
2. Masses are incapable of governing themselves (democratically)
3. State terrorism is used
4. Hierarchically structured organic society
5. Elites govern

A M S H E = SHAME

Heather’s Catchword

Four Stages of Food Processing

1. Ingestion—eating
2. Digestion—breaking down food
3. Absorption—cells absorb nutrients
4. Elimination—undigested wastes removed

I D A E = IDEA (extra association: Eating is a good IDEA)

Cheri’s Catchword

Acrostics, or Catchphrases

Acrostics, or catchphrases as Langan called them, are phrases or sentences that are made up of words beginning with the first letters of other words. Just as the catchword “FACE” helped most of us in music class remember the names of the spaces in bars of music, the catchphrase “Every Good Boy Does Fine” worked to recall the names of the lines. Catchphrases worked in junior high, and they can work in college, too. The difference, though, is that you need to create your own catchphrases in college to help you remember the information for your exams.

When to Use Catchphrases. Catchphrases are especially useful if you have to remember the information in a special order or if you can’t form an easy-to-remember word from the letters available to you (for instance, you may have all consonants but no vowels). You can create catchphrases to recall all kinds of course material. Remembering lists of names, steps in a process, causes and effects, and key points for essay answers are just a few ways that students use catchphrases.

How to Create Catchphrases. You can create catchphrases in much the same way you created catchwords. If you had to learn the five principles of nonverbal behavior in order, you might find that “Mary Ellen Answered Conrad Curtly,” is more memorable than “MEACC.” This example can provide you with some additional tips for creating acrostics, or catchphrases. You may have noticed that in the example (“Mary Ellen Answered Conrad Curtly”), the two *c* words have the same second letters (the vowels *o* and *u*) as the original key words (*contradict* and *culture-bound*). When you have two key words that start with the same letter, it’s helpful to use the second letter to show which one comes first. You may also find that making your mnemonic sentences outrageous, silly, or humorous helps you remember them. We tend to remember funny or outrageous catchphrases better than dull and boring ones.

Whenever you’re creating catchphrases to help you remember text material, use the following six steps:

1. Make a list of the information you need to learn.
2. Select a key word to represent each piece of information.
3. Underline or write down the first letter of each key word.
4. Form a catchphrase using words beginning with the first letter of each key word.
5. Practice associating the words in the catchphrase to the key words and then the key words to the actual information that you need to know.
6. Use the mnemonic to test your memory—to retrieve the original information.

After a little practice, you’ll find that you can use catchphrases to help you recall information for many of your college courses. Figure 4.4 includes several examples of acrostics, or catchphrases, that students used when preparing for exams.

FIGURE 4.4

Student Examples
of Catchphrases

Four Classes of Heterotrophic Organisms

Carnivores—animal eaters

Herbivores—plant eaters

Omnivores—animal and plant eaters

Decomposers—eat decaying organisms

"Can Henry Omit Dents"

Terri's Catchphrase

Five Building Blocks of Structure

1. Job design

2. Departmentalization

3. Coordinating mechanisms

4. Span of management

5. Delegation

"Jeff is depressed about coming to see David"

Todd's Catchphrase

FOUR KINDS OF LOVE

1. Passionate love

3. Fatuous love

2. Compassionate love

4. Consummate love

Peggy counted four chickens

Peggy's Catchphrase

Playing cards for cash

Mathew's Catchphrase

Imagery

You can create visual images to remember course material, too. Concept maps can be used to present a visual display of material that you need to remember (see Chapter 9). After developing and practicing a map, you'll be able to recall much of the information by visualizing the map itself.

You also can paint visual pictures in your mind to remember main points and supporting information. If you were studying the Boston Tea Party, for example, you could remember many of the details about this historic event just by visualizing what happened. By incorporating names, places, dates, and so on in your visual image, you can recall a great deal of information about your topic.

Another mnemonic device that uses imagery is known as the method of place or the *method of loci* ("lo-sigh," meaning locations). Here you form an association

between something you want to remember and a particular location on a familiar walk. Let's say that you have to present a speech about healthy eating habits in one of your classes and that your speech consists of seven main ideas. You simply imagine yourself taking a very familiar walk. As you pass the first familiar landmark on that walk, you develop an image that somehow connects that familiar landmark to the first point in your speech. For example, the image of a tree with a nest of baby birds could help you remember that you have to begin providing healthy foods when children are young. You continue in this manner until you have developed an image connecting each point in your speech to a landmark. Then, when it's time to present the speech, you simply imagine that you're taking that familiar walk. As you pass each landmark, you should be able to recall the next point in your speech.

Organizational Strategies

Organizational strategies allow you to organize the information to make it easier to learn and recall. Tasks such as listing, ordering, grouping, outlining, mapping, and charting are all examples of organizational strategies. In each of these activities, you act on the material that is to be mastered. With outlining, charting, or mapping, for example, you organize the material in a way that shows how each component is related to the others. One of the advantages of organizational strategies is that by restructuring the material, you provide yourself with new ways to remember many of the details. If you can remember the structure—the main headings of the outline, the categories in your chart, or the web strands of your map, for example—you'll be able to remember many of the details.

Look at the following list of words for sixty seconds; then cover it with your hand or a piece of paper and try to write the words in the margin.

Newspaper, pencil, bus, automobile, book, pen, boat,
magazine, comic book, chalk, crayon, train

You may have found that it was difficult to remember all twelve of the items. Do you know why? Earlier you learned about the capacity of short-term memory. If you recall, you can remember only about seven pieces of information at one time. You can, however, increase this capacity by chunking (grouping) the information. You probably will be able to remember all twelve items if you group them as follows:

THINGS YOU READ

newspaper

book

magazine

comic book

THINGS YOU WRITE WITH

pencil

pen

chalk

crayon

THINGS YOU RIDE IN

bus

automobile

boat

train

With this grouping, you have three pieces or chunks of information to remember instead of twelve. It's easy to remember three things, right? You also can remember the four items in each category quite easily because the headings help serve as cues. Now look at the three groups for sixty seconds and try to write down as many of the items as you can in the margin.

Organize Material by Grouping

You can improve your ability to learn and recall a large amount of material by grouping or chunking it. However, you should follow some basic guidelines when setting up your groups.

- Never set up more than seven groups. Why? If you make up ten or fifteen groups, you won't be able to remember all the group headings.
- Limit the number of items in each group to seven.
- Be sure you use a simple system. If your plan for remembering the information is extremely complex, you won't be able to remember it (the plan), and then you won't be able to remember the information itself.
- You can't learn the information just by looking at it. You need to write or recite the lists and then test yourself.
- Practice the items in a different order or by using some of the elaboration strategies previously described. Why? There's a tendency to forget the items in the middle of the list more quickly than those that are first or last.

Remember, the more organized the information is when you put it into LTM, the more easily you'll be able to retrieve it later.

Before her exam in Computer Literacy, Heather organized the information on the five different programming languages by using the informal outline and mnemonic sentences in Figure 4.5. She pulled the important information out of her text and notes and structured it in such a way that she could learn and remember it. Then she created catchphrases to prompt her memory. Her first sentence, "Corey Finds Bobby Playing Alone," serves as a cue for the names of the five programming languages. The other five sentences are designed to help her remember the details about each language. By organizing the information and practicing the connections between the catchphrases and the material she wanted to learn, Heather improved her ability to recall the information.

Comprehension Monitoring Strategies

Comprehension monitoring strategies allow you to keep tabs on your learning. They help you monitor your progress in mastering the material and allow you to evaluate the effectiveness of the strategies that you use to gain that mastery. Setting goals and then assessing your progress, reciting the answers to questions in the margin

FIGURE 4.5

Heather's
Informal Outline
(with Mnemonic
Sentences)

	Computer Programming Languages	
Corey	1. COBOL	Corey
	– widely accepted	wins
	– English statements, business applications	every
	– processes, records, produces	program.
Finds	2. FORTRAN	Fanny
	– solve science, math, engineer problems	Smith
	– programming	plays
	– widespread use, science – engineer communities	walleyball
	– solve problems	Saturdays.
Bobby	3. BASIC	Bobby
	– teaching tool	tells
	– easiest	everyone
	– programming language	Pat
	– Apple, IBM	ate
	– data structure – FORTRAN	dirt.
Playing	4. PASCAL	Pat
	– preferred teaching language	prefers
	– teaching tool	tulips.
Alone	5. ADA language	All
	– general purpose	girls
	– most advantages	must
	– structures – PASCAL	stay
	– strong type	strong.

or on question cards, taking self-tests, replicating study sheets, and even just asking yourself whether you understand something are all examples of comprehension monitoring strategies.

When to Use Comprehension Monitoring Strategies

Comprehension monitoring strategies help you determine when learning or understanding breaks down. For example, you may find, as you read and take notes on one of your textbooks, that you can't figure out how to formulate questions about the information under one of the headings. At that point, you should realize that you didn't comprehend or understand that section of the text.



Ten Tips for Improving Your Memory

- ❑ **Don't assume that you'll remember.** Many students think that they'll remember everything that they read in their textbooks and hear in their class lectures. Even if it worked for you in high school, it won't in college because college exams are spaced further apart, causing you to forget much of the information.
- ❑ **Decide that you want to remember.** When you want to remember something—when you're motivated to remember—you'll be much more successful. Motivation plays a major role in memory.
- ❑ **Organize the information logically.** The more logically you organize the information that you need to remember, the easier it will be to learn it and retrieve it from memory. Restructuring the information so that it's more meaningful to you aids your recall of it.
- ❑ **Write and recite to move information into long-term memory.** You won't even get information into long-term memory (or at least not very much of it) by just reading over your course material. You have to get actively involved with the material to make it meaningful so that you can learn and remember it.
- ❑ **Form associations to increase memory cues.** By developing study sheets, explaining the material, or making maps, you form associations with and among the material that add a variety of cues that will help you remember it for an exam.
- ❑ **Organize the information in your study sheets.** Creating titles, headings, and subheadings in your study sheets helps you organize the information and provides you with cues to aid retrieval.
- ❑ **Use your own expertise to aid memory.** When information is meaningful, it's easier to remember. Think of how what you're learning connects with your own life and work experiences.
- ❑ **Use mnemonics to aid memory.** Mnemonics can be used very effectively to aid retrieval. However, unless you learn the information to begin with, mnemonics won't work. You need to practice the connection between the mnemonic device you create and the actual material you want to remember.
- ❑ **Use rhymes, stories, or songs to help you remember.** If you're good at writing or remembering songs, rhymes, or stories, use those methods to help improve your memory. Words that rhyme, the details of a story, or even the melody of a song add additional cues that may help you remember information for your exam.
- ❑ **Monitor your memory.** Check your memory of the information before the exam by self-testing on paper or by reciting. If you can't say the answer out loud (or write it) without peeking, you don't really know it.

When you use self-testing activities, you're also monitoring your learning. If you find that you don't really know the information as well as you thought you did, you can review it again. Self-testing allows you to practice retrieving the information from LTM in a test-like situation. Some students become frustrated when they take exams because they spend hours and hours studying but can't seem to recall the information

during the exam. Has that happened to you? If so, you probably didn't spend enough time practicing retrieval. Each time you self-test, you practice getting the information back out of memory. This provides you with an opportunity to practice using the cues you intend to use during the exam and to monitor their effectiveness.

Comprehension monitoring strategies also help you examine and evaluate the strategies you're using. By taking a self-test, for example, you may discover that you don't really know as much as you thought you did about a particular topic. Your discovery that you haven't learned that material gives you some feedback on your progress as you're preparing for an exam. However, it also may allow you to evaluate the strategy that you originally used to "learn" that material.

Affective and Motivational Strategies

Affective and motivational strategies relate to your attitude, interest, and motivation toward learning. They can influence how effectively you learn and remember information. Many of the strategies that you use for setting goals, managing time, and improving concentration are examples of affective and motivational strategies. These strategies help prepare you mentally for studying and help you create a positive learning environment.

Your Attitude Toward Learning

Your attitude about learning the material can influence how well you'll attend to it, organize it, and store it. When you're preparing for an exam, it's important that you feel interested in the material and motivated to learn and remember. Establishing a purpose for studying, seeing the relevance of the course you're taking, and using active learning strategies can all help increase your motivation. If you think studying will affect your performance, you'll be more motivated to study. If you want to learn something, you'll be more motivated to work hard. Using strategies that are both effective and interesting can make learning fun. Many students actually enjoy studying for a test using these strategies because they end each study session feeling good about what they've accomplished.

Monitoring Your Learning

Monitoring your learning also can be an effective motivational device. If you test your learning by covering the material and trying to recite the information, you'll be able to evaluate your storage and retrieval processes. You also can accomplish this by reciting from the headings in your notes, taking self-tests, reproducing maps or charts, and so on. Covering up the material and reciting it allows you to test your memory. If you're able to remember the information, you feel good—you know you're learning. Successful recitations motivate you to continue to study and to continue to use that strategy because it worked. You may need to change to a different strategy or increase your study time to store the information you couldn't

recall. When you know that you know the important information for a test, you develop more confidence in yourself as a student, and that can affect your performance on the exam.

Your State of Mind During the Exam

Your state of mind during the exam also affects how well you're able to retrieve the information. If you experience test anxiety, you may not be able to concentrate on the exam questions. You may find that you're so upset that you can't think of the answers. Knowing you're well prepared for an exam reduces and, in some cases, eliminates feelings of test anxiety. Not knowing the material well enough—or not being sure that you know the material well enough—can actually lead to more test anxiety. Spacing your study time, using active learning strategies, and self-testing (practicing retrieval) help you prepare well for the exam. If you begin the exam with a positive attitude about your preparation and expect to do well, you increase your probability for success.

SUMMARY

Learning how information is stored and retrieved in the human brain—learning how memory works—may help you better understand why you need to be actively involved with your course material as you complete day-to-day assignments and prepare for exams. To learn anything, you must encode it—make it meaningful. At that point, you must work on (rehearse) the material to move it from short-term to long-term memory. By working on the material in different ways, you can form many associations or cues to help you retrieve the information when you need it. However, there are many problems that can lead to poor retrieval and forgetting.

Strategies such as spaced practice, breaking down tasks, repetition, and overlearning are the cornerstones of improving your memory. Specific memory strategies can also be used effectively to increase your ability to store and retrieve information. Rehearsal strategies help you store information in long-term memory. Elaboration strategies build cues to aid retrieval. Organizational strategies make the material easier to learn and remember. Comprehension monitoring strategies help you monitor your learning and your strategies. Affective and motivational strategies help keep you on task, encourage you to work hard, and reward you when your efforts pay off. As you've probably discovered, many of these strategies work best when you use them together. Most people are not born with a good memory—but anyone can develop a good memory by working hard and becoming an active, strategic, and motivated learner.

ACTIVITIES



1. Go to the Web site and follow the links in Chapter 4 to take a Visual Memory Test and a Short-Term Memory Test by clicking on the University of Washington links. Be prepared to discuss the results.



2. How would you rate your memory? Did you have difficulty remembering the items from the memory tests in Activity 1? Do you often have difficulty remembering information for an exam? Do you forget to do an assignment if you don't write it down? Would you like to improve your memory? Why? What's your motivation?



3. Go to the Web site and download one copy of Activity 4-4 from the Activities Packet. Create catchphrases for each of the examples listed. Compare your catchphrases with those developed by the other members in your group.



4. Choose a part of a chapter in one of your textbooks, select the material that you think you need to learn for an exam, and organize it on a sheet of paper. Determine how you could learn the material. Then work on it until you think you know it. Finally, test yourself to monitor your learning.



5. During the next week, make a list of at least ten associations that you use to help you remember information both in and out of the classroom. Which of the associations were helpful? Why? Discuss your responses with other members of your group. Did you get any good memory ideas from the other members of your group?



6. Choose another part of the same chapter you used in Activity 4. Select the material that you think you need to learn for an exam and organize it on a sheet of paper. Choose a different strategy to learn the information. Then work on it until you think you know it. Finally, test yourself to monitor your learning. Which strategy was the most effective? Why?



7. List in the margin five motivational strategies that you used during the past week. Get together with a group of your classmates and compare the strategies you used. Describe how effective they were in improving your learning and memory. What strategies do you plan to use in the future? Why?



8. Using the Internet, locate additional information on how to improve your memory. Follow any links that you find as you search for new strategies or suggestions. Make a list of the top five sites that you found and share them with the other members of your class. Which strategies do you plan to use?



9. Chris studied for ten hours for his biology exam. The exam covered four chapters and was composed of multiple-choice, true/false, and short-answer questions. Chris re-read all four of the chapters, made up forty-five word cards, and read over his lecture notes until he fell asleep each night. During the exam, he thought he knew most of the answers to the multiple-choice and true/false questions, but was unable to recall the answers for four of the five short-answer questions. When the exam was returned, Chris was surprised that he missed a number of the multiple-choice and true/false questions. His score was a 47 percent. What mistakes did Chris make that led to his low score? What should he have done differently? What would you do if you got a 47 percent on one of your first exams?



10. Now that you've completed Chapter 4, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW



Terms You Should Know: Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.



Completion: Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. _____ memory is very susceptible to interference.
2. If information is well _____, it is easier to learn and recall.
3. Another term for spaced practice is _____ practice.
4. Mnemonic devices are designed to aid _____, not _____.
5. _____-level rehearsal strategies are more effective in getting information into long-term memory.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. _____ occurs when you make things meaningful.
 - A. Encoding
 - B. Storage
 - C. Retrieval
 - D. Memory
7. Which of the following is not an advantage of overlearning?
 - A. It helps you organize the information you need to learn.
 - B. It reduces test anxiety.
 - C. It prevents forgetting.
 - D. It helps you understand the material better.

Short Answer/Essay: On a separate sheet, answer each of the following questions:

8. Compare and contrast short-term and long-term memory.
9. Why do some students have difficulty retrieving information? What should they do differently?
10. Describe Weinstein and Mayer's Five Groups of Learning Strategies.

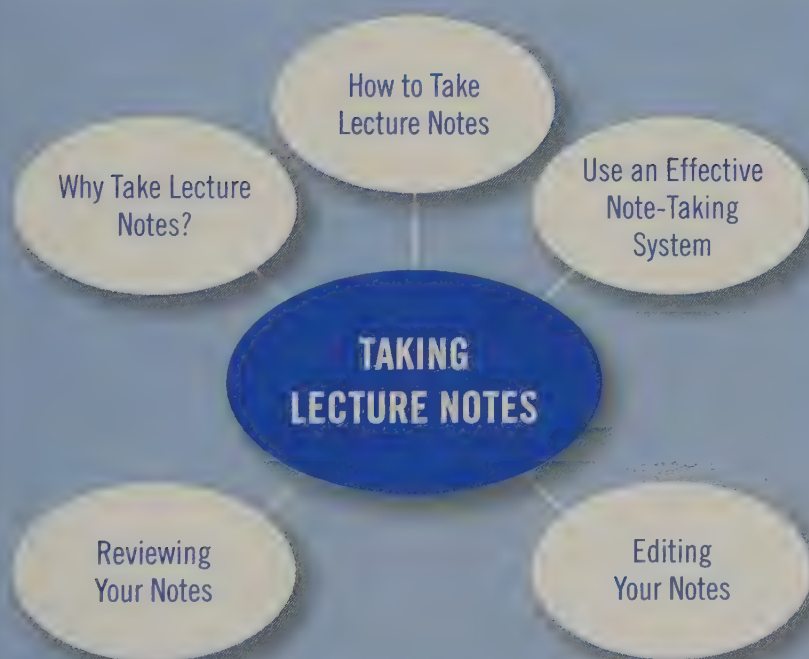


Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Taking Lecture Notes

CHAPTER

5



"The new strategies for taking lecture notes really do work. They make the class time move faster, and at the end when I leave, I really feel that I learned something instead of just spending fifty minutes deciding what to pack for spring break. Good lecture notes come in handy when it comes time to study for tests, too. Paying attention in class is so much easier when I take notes."

Nicole Modechi, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Active listeners
Block notes
Content
Details
Edit

Headings
Hearing
Informal outline
Listening
Meaningful phrases

Modified-block notes
Organization
Quality
Quantity
Recall questions

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you edit your notes within twenty-four hours after each of your classes?	_____	_____
2. Do you try to write down exactly what your professor says in class?	_____	_____
3. Do you separate the main points from supporting information in your notes?	_____	_____
4. Are you able to read and understand your notes when you study for your exam?	_____	_____
5. Do you sometimes find that your notes don't make sense when you review them before an exam?	_____	_____
6. Do you tend to write down only key words when you take notes?	_____	_____
7. Do you review your notes by reciting them out loud?	_____	_____
8. Do you tend to miss a lot of information when you take notes?	_____	_____
9. Are you actively involved in the lecture?	_____	_____
10. Do you read your textbook assignment before you go to class?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 1, 3, 4, 7, 9, and 10, and 1 point for each *no* answer to questions 2, 5, 6, and 8. Total up your points. A low score (0–4) indicates that you need some help in note taking. A score of 5 to 7 indicates that you are using some good note-taking strategies but not others. A high score (8–10) indicates that you are already using many good note-taking strategies. What did you learn by completing this activity?

WHY TAKE LECTURE NOTES?

Other than attending class every day, taking good lecture notes is probably the single most important activity for college students. Multiple research studies and surveys indicate that note taking is a valuable strategy. In fact, many researchers believe that note taking is a significant factor leading to student success.¹ Peverly and his colleagues found that notes were positively and significantly related to recall quality and test performance.² As you'll learn later in this section, you won't remember very much of the material without a set of notes from which to study.

Taking notes during college lectures is a difficult task for most students entering college because little or no real practice in note taking occurred when they were in high school. There, note taking involved copying the information off the chalkboard as the teacher talked and wrote. In college, however, most professors don't do the job of note taking for you. You need to do it! Taking good lecture notes requires motivation—you have to be willing to work hard during the lecture. It's easy to sit back and listen or think about something else. Instead, you must listen, select the appropriate information, paraphrase it, condense it, and then write it down with few (if any) clues from the professor. Developing good note-taking skills takes both time and practice. Taking lecture notes promotes active listening, provides an accurate record of information, provides an opportunity to interpret, condense, and organize the information, and provides an opportunity for repetition of the material.

Promotes Active Listening

Taking notes in class promotes active listening by helping you concentrate on the lecture. Have you ever sat in class and realized that you had no idea what the professor just said? Even though everyone gets distracted once in a while, it becomes a real problem if you daydream so much that you miss a lot of the lecture. Taking notes can improve your concentration because you're focusing your attention on what's being said. You have a purpose—listening for the next point your professor will make so you can write it down.

Some students find lecture classes very boring; they prefer classes where they're more actively involved in the learning experience. Taking notes, however, is a very active process. Note taking involves more than just writing down what the professor is saying. It includes thinking about what's been said, determining what's important, recognizing how different points relate to others, anticipating what will be said next, putting the information into your own words, and organizing the information in your notes.

¹B. Armbruster, "Notetaking from Lectures," In R. Flippo and D. Caverly (Eds.), *Handbook of College Reading and Study Strategy Research*, 2nd ed. (New York: Routledge, 2009), pp. 220–248.

²S. T. Peverly, V. Ramaswamy, C. Brown, J. Summowski, and M. Alidoost, "What Predicts Skill in Lecture Note Taking?" *Journal of Educational Psychology*, 99 (2007): 167–180.

Provides an Accurate Record of Information

The most important reason for taking notes is to get an accurate record of the information presented in class. Even if you learn some of the information during the lecture class, you probably won't remember it by the time you take your exam. In college, exams are given after four, seven, ten, or even fifteen weeks; you won't remember all the lecture material by the time you take a test. Research studies indicate that without rehearsal, you may forget 50 percent of what you hear in a lecture within twenty-four hours, and 80 percent in just two weeks.³ In fact, you may forget 95 percent within one month. This comes as a big shock to most college students; however, it explains why some students have difficulty on exams. A number of research studies done during the 1980s and 1990s indicated that students only recorded 20 percent to 40 percent of the lecture's ideas.⁴ Peverly and his colleagues examined this topic again in 2007. They looked at the quantity of notes students took and the quality of those notes. *Quantity* can be defined as the number of topics that were presented during the lecture (the number of headings or subheadings mentioned). *Quality* can be defined as the level of elaboration (or the number of details) that was presented about each topic. They found that both the quantity and quality a student was able to record had a positive relationship with test performance.⁵ In other words, the more pages of notes you take and the more information you write down about each topic, the more likely you will do well on the exam. This relates to a point that was made earlier. If you don't leave a lecture class with a good set of notes—an accurate record of information—you won't have the opportunity to review that material again before the exam. You can't just rely on your memory of the lecture. You need your notes, too, because in many classes the majority of the exam questions come from the lecture material. Without a good set of notes, you won't be able to prepare well for the exam.

Helps You Organize the Information

Taking lecture notes forces you to interpret, condense, and organize the information that's presented. You've probably already discovered that you can't write (or type) as fast as your professor speaks. If you were able to do so, you could simply jot down the lecture word for word with little thought, and as a result, you wouldn't really learn very much. In many ways it's probably better that you can't. Because you have to condense the information as you record it, you have to think about each sentence and interpret it—often putting the information into your own words. As you take

³H. Spitzer, "Studies in Retention," *Journal of Educational Psychology*, 30 (1939): 641–656.

⁴B. Armbruster, "Notetaking from Lectures," In R. Flippo and D. Caverly (Eds.), *Handbook of College Reading and Study Strategy Research*, 2nd ed. (New York: Routledge, 2009), p. 225.

⁵S. T. Peverly, V. Ramaswamy, C. Brown, J. Summowski, and M. Alidoost, "What Predicts Skill in Lecture Note Taking?" *Journal of Educational Psychology*, 99 (2007): 167–180.

notes, you should create a system of organization that separates the main and supporting points. You can structure the information your own way—a way that makes sense to you. These processes make note taking very active and help you understand and learn the information during the lecture. They also provide you with a record of the important information in a format that's useful for later study. Remember, the more organized the information is, the easier it is to learn and remember.

Provides Additional Repetition

Taking lecture notes also provides you with some repetition of the material. By writing down the important information, you are, in fact, reviewing it several times. To take notes, you must actually work on the material (that is, think about it). You need to listen to each sentence the professor states, evaluate its importance, interpret its meaning, condense it into a meaningful phrase, organize it under a heading or subheading, and finally write it down. You may find that you think about the material again as you go through the same process for the next sentence, too, because it may connect to the previous notes you took. In this way, you get more repetition on each point—something that may not occur were you simply listening to the lecture. Of course, as you edit (discussed later in the chapter) and review your notes, you'll get even more repetition.

HOW TO TAKE LECTURE NOTES

Learning to take notes effectively and efficiently takes time. You can improve your note-taking skills rapidly, however, by using some basic strategies. One of the first things you need to do is evaluate your own note-taking skills. Then you need to work on improving the content and organization of your notes. However, to do that you need to learn to become an active listener.

Evaluate Your Note-Taking Skills

Now that you know how important it is to take notes, you're probably thinking about the quality of the notes you usually take. Although the "Where Are You Now?" activity gave you a general indication of how well you take notes, an even better way to evaluate your note-taking skills is to compare the content and the organization of your notes to that of other students.

Consider the Content

First, consider the *content*, the information that you recorded in your notes. Did you get an accurate record of the information? You need to evaluate both the quantity

and the quality of the information. Were you able to record all of the topics (quantity) in your notes, or did you only get down some of them? Did you record all of the details the professor presented (quality), or did you miss a lot of the information or think it was unimportant? The best way to figure out if you're taking good notes is to find out whether you're getting down the information you'll need in order to master the material and review for the exam. This is not easily determined in one attempt.

One way to judge the content of your notes is to compare them with those of other students in your class. Another way is to compare the information in your notes with the information in your textbook (assuming your professor follows the text). You also can evaluate the completeness and accuracy of your notes after you take a quiz or exam on the material. Look back at your notes to see if you were missing any information or had inaccurate information that contributed to the errors on your test.

Consider the Organization

Organization—the way you structure the material—is the second criterion for how good your notes are. If you try to write down everything without organizing the information, you may find yourself with a jumble of unrelated facts and ideas. It's important to separate main points and details and to show the relationships between clusters of information in your notes. You'll learn more about how to organize your notes later in this chapter.

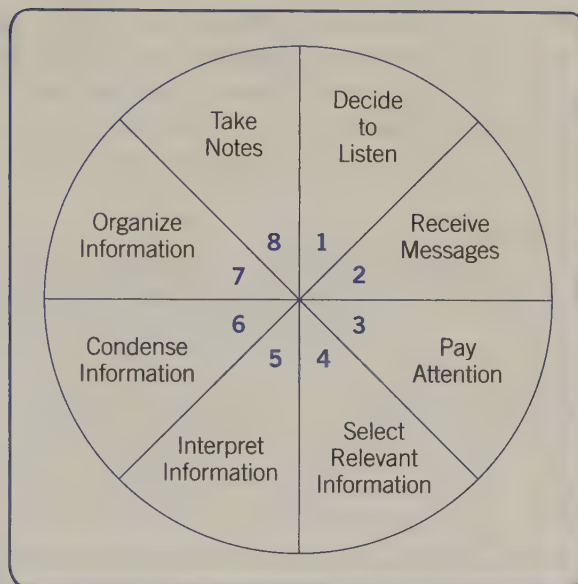
Prepare Before Taking Notes

Before you ever walk into a lecture class, you need to prepare to take notes. The best way to prepare for note taking is to read the text assignment before class so you can build up some background about the topics that may be new to you. You'll find it easier to identify main ideas and organize your notes as the professor delivers the lecture. Finally, you'll be somewhat familiar with key terms and names after reading the text. This will help you keep up with the lecturer and avoid making content errors in your notes. If you've been having difficulty understanding the lecture or taking notes, try reading your text assignment before the next lecture. Remember, you only get one chance to listen to the lecture, but you can read the text as many times as you want.

As you walk into the lecture classroom, get ready to take notes. If you sit near the front, you'll be able to see and hear better. You'll probably find that other interested and motivated students also tend to sit in the first few rows of the class. While you're waiting for class to begin, review the notes that you took during the last class meeting. Many professors pick up where they left off in the last lecture. Your review will remind you of the main topics and the general organization of the lecture and will prepare you for the next point that will be made.

FIGURE 5.1

Steps in the
Listening/
Note-Taking
Process



Become an Active Listener

Although reading your text assignment helps you build some background for understanding the lecture, it doesn't guarantee that you'll take good notes. Researchers have discovered that we ignore, misunderstand, or forget about 75 percent of what we hear.⁶ As you may have discovered by now, note taking is an active process that involves a number of steps (also shown in Figure 5.1).

- Deciding you want to listen
- Receiving messages
- Paying attention to the lecture
- Selecting relevant information
- Interpreting the information to make it meaningful
- Condensing the information before writing it down
- Organizing the information under the appropriate headings or subheadings
- Taking notes

Active Versus Passive Listening

Many students confuse hearing and listening. Your ears may receive sounds during a lecture, or you may listen by watching a sign language interpreter or real-time reporter, but that doesn't mean that you're listening—paying attention to and interpreting what you're hearing. As you learned in Chapter 4, you only remember

⁶Diane Bone, *The Business of Listening* (Los Altos, CA: Crisp Publications, 1988), p. 5.

a small proportion of all sounds that you hear because you don't attend to (pay attention to) most of them. *Hearing* is a passive process; it is nonselective and involuntary. *Listening*, on the other hand, is an active “process that involves receiving, attending to, and assigning meaning to aural [verbal] and visual [nonverbal] stimuli”⁷ (material in brackets not in the original definition).

Characteristics of Active Listeners

Active listeners are physically and mentally focused on the lecture. They sit up straight, lean forward slightly (indicating interest), and make the lecturer the center of their attention by making eye contact or sitting directly in the lecturer's line of vision. Active listeners often sit near the front of the classroom to avoid external distractions. They eliminate internal distractions, too, by pushing other thoughts out and focusing all their attention on the information being presented. They're open minded and willing to listen to the lecture, putting aside their own biases. Students who are actively involved in the lecture ask questions, answer questions, and take notes. They evaluate what they're hearing and often consider how this information connects to their prior knowledge of the subject. Professors often can identify students who are actively involved in the lecture by their body language. They may nod or smile in agreement, look amazed or confused at times, and pull back or frown when they disagree with what's being said. Active listeners are physically, intellectually, and emotionally involved in the lecture.

Factors That Interfere with Effective Listening

Without realizing it, even the most dedicated students may at times be thwarted in their efforts to be active listeners. Both internal and external distractions can interfere with your ability to concentrate during a lecture. Not attending to the lecture can lead to uncertainty about what was said, difficulty understanding the information, or missed information. Some students become less involved in the lecture when they're angry or offended by the speaker or the message. They react emotionally to the situation and blame the speaker, and often stop paying attention to what he or she is saying as a way of retaliating. Some students become angry or close-minded when the lecturer discusses controversial material that's in direct opposition to their own personal point of view.

Strategies for Improving Your Listening Skills

Although there are many strategies for becoming an active listener, the following should help you increase your skills:

- Read the text assignment before the lecture to build background on the topic.
- Review your last set of notes before the lecture begins.

⁷A. D. Wolvin and C. G. Coakley, *Listening*, 5th ed. (Dubuque, IA: Brown and Benchmark, 1996), p. 69.

- Sit in the professor's line of vision (first row across or middle row from the front to the back of the room).
- Decide that you want to listen.
- Focus your attention physically by sitting up and making eye contact with the speaker.
- Focus your attention mentally by eliminating or avoiding distractions.
- Listen with an open mind, setting aside your own biases.
- Control your emotional responses.
- Listen for the main points and related details, and take notes.
- Ask and answer questions.
- Monitor your listening. Check with the lecturer or a classmate (at the end of the lecture) if you're unsure of any information.
- Hold yourself accountable for the material presented.

USE AN EFFECTIVE NOTE-TAKING SYSTEM

Dozens of systems have been developed to help students become effective note takers. The Cornell note-taking system (developed at Cornell University) includes an excellent format for setting up your note page. Use an 8½-by-11-inch notebook (I recommend a separate notebook for each class), so that you have enough space to take notes, create a recall column, and write a summary at the end of each page. A sample note page using the Cornell system is shown in Figure 5.2. To set up your page, use a ruler to create a new margin line 2½ to 3½ inches from the edge, or purchase a summary margin notebook available in some college bookstores. Most notebooks have only a 1-inch margin, which doesn't allow enough space to write recall questions (you'll learn more about this later in the chapter). If you're taking notes on your laptop, set your tab to create a wider margin. At the end of each page, leave a 2-inch margin so that you can write a summary of the important points as you review your notes. In the large 6-inch space to the right of the margin, write down as much information about the lecture as you can. You can use a variety of methods to take your notes, but the informal outline, block, and modified-block styles have proven to be effective for most college lectures.

Three Note-Taking Systems

Although there are many note-taking systems, the informal outline, the block, and the modified-block styles work well for college lectures. Try them all and see which work best for you.

FIGURE 5.2

Cornell Note Page

	Date
	Topic
$2\frac{1}{2}"$ Recall column	$6"$ Area for notes
	$2"$ Summary of key points

The Informal Outline

Many students use an *informal outline* to take notes, which involves indenting each level of supporting details under the preceding heading, subheading, or detail (see Figure 5.3). You can effectively use an informal outline for taking notes as long as you're careful not to fall into several traps. Don't get distracted by the "rules" of

FIGURE 5.3

Informal Outlining

	Piaget – Intellectual Development	9/17
	Perception	
	1960s	
	knowledge of infants limited	
	believed they had no visual or hearing ability	
	difficult to test	
	Today	
	know they do have percep abilities at birth	
	prenatally – can hear	
	Vision	
	Visual acuity	
	Birth	
	acuity poor – 20/600	
	see 20 ft what we see 600 ft away	
	1 mo.	
	20/150	
	= to someone with glasses	
	12 mo.	
	20/20	
	Abilities improve as does ability to use them	
	Focus	
	fixed focus – 9"	
	same distance as mom to baby's eyes when fed	
	Eye muscles	
	weak	
	lack coordination	
	that's normal	
	Abilities at birth	

formal outlining. You could spend so much time thinking about how you should label or designate the next point in your notes that you miss some of the content. You may find yourself thinking about whether you should write a "B" or a "2" in your notes instead of concentrating on the content of the lecture.

Too often, students equate outlining with just writing down key words. One-word outlines contain too little of the content of the lecture to provide an accurate record of information. Sometimes students don't realize how little information they have in their notes until they look at another student's notes. The sample notes in Figure 5.4 were taken by two students in the same Economics class. Gary simply wrote down key words. His notes look well organized and effective until you

compare them with the notes taken by Bryan. Bryan's notes contain much more information about the topics presented in the lecture. Bryan included *meaningful phrases*, condensed versions of the statements made by the professor that contain the important information that was presented. When it's time to prepare for an exam, students with "one-word notes" simply don't have enough information from which to study. Which set of notes would you rather have before an exam?

The Block Method

The block style of note taking is another very simple system to learn. Block notes are especially useful if you need to record a great deal of information very quickly. Do you have a professor who talks so fast you can't keep up? Who never repeats information? Who never seems to pause to catch his or her breath? When taking block notes you need only to write down the heading and then focus on writing as many details as you can. *Block notes* are written continuously across the page, separating the details by dashes (—) or slashes (/). Demonstrating the block form, Figure 5.5 contains a set of notes from part of the lecture entitled Piaget's Intellectual Development. The headings from the lecture stand out because they're next to the margin, whereas the details are clustered together in a block indented slightly under each heading. Remember, you don't have to write complete sentences just because your notes are shaped like a paragraph; instead, you want to concentrate on writing meaningful phrases. By skipping a line or two between each cluster of information, you can organize your notes and leave room to add something the professor mentions later in the lecture, or something you may have missed.

The Modified-Block Method

Some students are uncomfortable putting all their notes in block form. If you like the idea of having all of the information grouped under a heading without showing various levels of support, as in an outline, you may prefer to use a modified-block format. To take *modified-block notes*, you would simply indent about ½ inch and list all related details straight down the page under each heading—like a bulleted list. You would take each of the details clustered under the heading "Development of Perception" and list them individually, one statement per line (Figure 5.6). If you look again at the notes in Figure 5.6, you may notice that a few lines of notes are indented. You can create subheadings when you need to and still use modified-block format for taking notes. Although most of the details are listed at the same level, it's okay to indent to show details for an occasional subheading. Having each detail on a separate line makes it easy to take notes, organize them, add recall questions, and review for the exam.

The block and modified-block methods allow you to take notes efficiently and effectively because you have to concentrate on only two things: (1) writing down the topics (headings) and (2) writing down any details about them. You don't have to spend a lot of time trying to figure out where to place or how to label each new piece of information.

FIGURE 5.5

Block Notes

	Piaget – Intellectual Development	9/17
	Development of Perception	
	knowledge of infants limited – 60s – no visual or hearing ability – difficult to test – infants do have percep abilities at birth – even prenatally – can hear	
	Vision	
	visual acuity poor 20/600 at birth – see 20 ft what we see 600 ft away – 1 mo. 20/150 = someone with glasses – 12 mo. 20/20 – abilities improve as does ability to use them – newborns – only fixed focus – 9" – same distance as mom to baby's eyes when fed – eye muscles weak – lack coordination = normal	
	Abilities at birth	
	can see – follow a bright light – have preferences – Peep board experiment – infant in seat – 2 panels – objects on each – experimenter watch infant's pupils – see obj in eye – now TV camera & computer – prefer complex pattern to simple – bk/w checkerboard to bright red patch – most preferred at 2 mo. – simple human face 😊 – inborn pref for human face – smile first	

What to Include in Your Notes

Although some general rules will help you figure out what to include in your notes, there's no simple answer to the question "What should I write down?" Some students are so afraid that they'll miss even one point during the lecture that they try to write down every word the professor says. This is both impractical and ineffective. You can't write as fast as your professor can talk. A good general rule is to treat a lecture class like a lab class. You should be an active participant during the entire period. The best thing to do is to take as many notes as you can in a well-organized format. As soon as you pick out the heading, listen carefully for any information that explains or expands upon it, and add that information to your notes. Have you ever caught yourself thinking, "I wonder if I should write that down?" Anytime you think about whether to write something down, go ahead and write it down. You may even find that your fingers feel sore

FIGURE 5.6

Modified-Block
Notes

	Piaget – Intellectual Development	9/17
	Development of Perception	
	knowledge of infants limited 1960s	
	believed no visual or hearing ability	
	difficult to test	
	now know infants do have percep abilities at birth	
	prenatally can hear	
	Vision	
	visual acuity poor at birth 20/600	
	see at 20 ft what we see 600 ft away	
	1 mo. 20/150 = someone w glasses	
	12 mo. 20/20	
	abilities improve as does ability to use them	
	newborns have a fixed focus – 9"	
	same distance as mom to baby's eyes when	
	being fed	
	eye muscles weak	
	lack coordination = normal	
	Abilities at birth	
	can see	
	follow a bright light	
	have preferences	
	peep board experiment	
	exper infant in seat	
	2 panels w objects on each	
	watch infant's pupils	
	see preferred obj in infant's eye	
	computer experiment	
	now use TV camera connected to computer	

from typing or your hand hurts at the end of the period; that's fine. *Remember: When in doubt, write it out.*

Headings

Always note all *headings*—the topics of discussion—that are presented during a lecture. You may find that sometimes you have no trouble at all identifying each new heading to put in your notes; other times, you may have a lot of trouble. The headings (new topics) appear to be obvious during some lectures because the lecturer states them in an easily recognizable manner. Introductions such as “The next thing we’re going to talk about is . . .,” “Another reason is . . .,” “What about vision?” and

“First of all, . . .” make headings easy to pick out. Listen during your next lecture to see how your professor introduces each new heading.

Details

After you write the heading in your notes, listen for all of the *details*, the points that support each heading. Until you develop more sophisticated note-taking skills, you may want to focus on the following types of details:

1. Any facts or explanations that expand or explain the heading.
2. Definitions, word for word, especially if your professor repeats them.
3. Enumerations or lists of things that are discussed.
4. Examples; you don't need to note all of the details for each example, but you do need to know to which general topic (heading) each example relates.
5. Anything that is written on the board or on a PowerPoint slide.
6. Anything that is repeated or spelled out.
7. Drawings, charts, or problems that are written on the board.
8. Concluding statements that sum up previously stated information.

How to Take Notes in Different Formats

Although most college professors still present information in traditional lecture formats, some incorporate other presentation styles in the classroom. In some classes, a lot of information is presented through class discussion. In others, how to do problems is the focus of the class. A number of professors are now using PowerPoint presentations (often providing copies of the slides to students in advance). Others pass out or post their own notes online. Taking notes using traditional formats can still work, but some minor modifications will make your note taking more efficient and effective.

Discussion Classes

Many professors prefer the discussion format when teaching. They could very easily just “tell” students the information, but they prefer to allow the information to emerge through a guided discussion. Even though the material is presented in a different format, it often will still appear on the exam.

You can easily take notes on a discussion. Instead of writing down the heading, write down the question that's posed. Then jot down the various points that are made during the discussion. Remember, it's very important to indicate who made which point in the discussion. The easiest method is to simply write “P” in front of any statement made by the professor and “S” in front of any statement made by a student. Be sure to include the final comments your professor makes that sum up the discussion.

Math and Science Classes

Taking notes in math and science classes requires special strategies. The modified-block method probably will be more effective than the outline method because

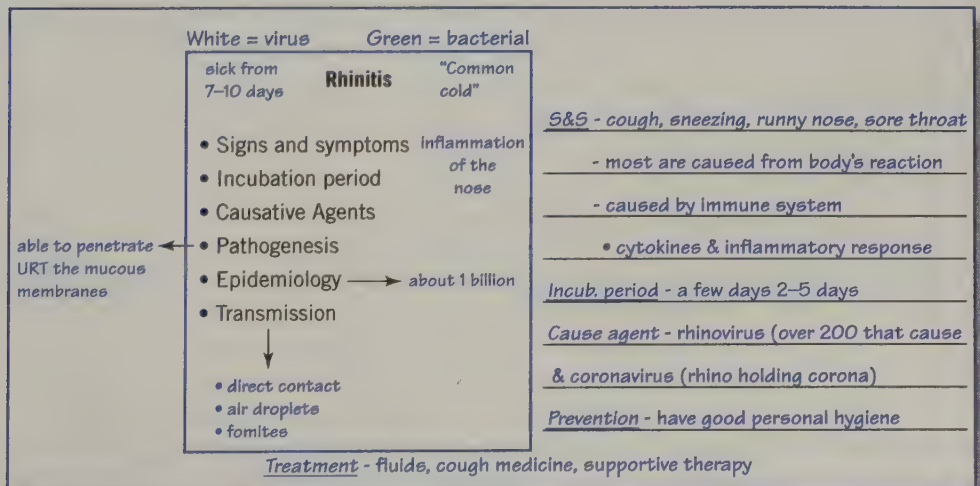
you'll need to include many problems and diagrams that are written on the board. You may not think that you need to write down all of the problems your professor puts on the board, but you should. Even more important, however, you need to write down what he or she says about the problems. Get into the habit of writing the name or type of problem first. Then copy down the problem and take notes on steps to follow, tricky areas, what to do first, and even why you should do it. Think of the explanations about a particular problem or model as mini-lectures. You may find it helpful to write the problem on the left side of the note page and anything your professor says about it directly across from each step. Listen carefully for main points and important details, and put them in your notes.

PowerPoint Presentations

Many professors use PowerPoint presentations (which incorporate a series of "slides" containing main points, details, diagrams, and examples) to enhance their lectures. In addition to showing each slide on a large screen, many of them pass out a paper copy to their students with space for notes. Many students don't realize that their professors use the slides to show the main points of the lecture and then add additional information (generally details) during the lecture. As you can see from Kayla's notes (Figure 5.7), there isn't much space to write down all of the information. Kayla wrote down as much of the information as she could on the lines but had to add additional information in the space around the slide. Have you ever done that? If you rely only on the space provided on the handout lines, you won't be able to record enough content in your notes. If you add information around the slide itself or in the margin areas, you won't have well-organized notes. Instead of taking notes on the handout sheet, use it to organize your notes by copying the headings and subheadings into your notes as the professor refers to them. Then listen to what the professor says about the slide and take notes. Leave space in your notes to tape in the slides showing diagrams or problems (make a note with the name for each).

FIGURE 5.7

Kayla's Notes
from One "Slide"
of a PowerPoint
Presentation



If you're taking notes on your laptop, you need to list the name and number of the slide in your notes and then type anything your professor says about the slide. When you're ready to print out your notes, insert some blank space after the slide number and download (if they're available online) or tape in the slide above your notes.

Online Lecture Notes

Some professors choose to post their lecture notes on their course websites. Some post the notes prior to the lecture so that students can sit back and listen in class or feel more comfortable participating in class discussions. Others post their notes after the lecture so that students will have all of the information that was presented in class. Many students ask whether they need to take notes in class when they can simply print them out. As you learned earlier in the chapter, you benefit in many ways when you do take notes. You are actively engaged in the class, you can condense the material, you can organize the material your way, and you can put the information in your own words. You can use the professor's set of notes to build some background prior to the lecture. Then, after you take notes, use the online notes to edit your notes. You'll learn more about how to edit in the next section.

EDITING YOUR NOTES

Taking good lecture notes is only the first step in the note-taking process. After you leave the classroom, you need to *edit*, revise your notes to correct errors, clarify meaning, make additions, and improve organization. Editing is a fairly easy process once you know how to do it. Early in the semester you may spend a lot of time making corrections or additions to your notes. You may need to rewrite your notes in order to reorganize the information. You'll soon benefit from these editing experiences, however, and your ability to take good notes will improve. You'll probably find that by the second half of the term, you won't need to spend nearly as much time editing, and you can instead devote that time to a more active review of your notes.

Why You Should Edit Your Notes

Editing your notes helps you become a better note taker because you get feedback on the content and organization of your notes. As you go through your notes to check for accuracy, fill in gaps in information, and improve the organization, you can see where you made mistakes. This feedback can help you become a better note taker. When you know what types of errors you tend to make, you can make changes in your preparation, attention, or note-taking style. Editing also helps you hold yourself accountable. If you know you're going to check your notes after the lecture, you'll take better notes during the lecture.



Additional Strategies for Taking Lecture Notes

- ❑ **Don't rely on your memory alone.** Many students think they should be able to remember the information presented in a lecture if they pay careful attention. Unfortunately, we tend to forget rapidly. With four to seven weeks between most exams, taking notes is critical.
- ❑ **Use a full-size notebook.** Use a separate 8½-by-11-inch notebook for each of your classes. Using smaller notebooks can unconsciously lead to writing fewer notes.
- ❑ **Include the topic of the lecture in your notes.** By including the topic, you're helping to organize your mind for listening and your notes for later review.
- ❑ **Leave some space in your notes.** By leaving a 2½- to 3½-inch margin on the left side of the page, you'll be able to add recall questions when you edit your notes. Also, leave a few blank lines before you write the next heading in case the professor adds information later in the lecture.
- ❑ **Use common abbreviations in your notes.** By using familiar abbreviations, you can get the information down more quickly. Don't use too many abbreviations, though, or you won't know what they mean. See the list of common abbreviations on the Web site.
- ❑ **Skip a few spaces if you miss information.** Skip a line or two and go on to the next point. If you miss a keyword, draw a line and keep going. Ask a classmate or the professor about the missing information after the lecture.
- ❑ **Use a recorder with a counter.** If you choose to record your lectures early in the term, make sure you use a recorder with a counter on it. When you can't keep up with the lecturer and miss information, make a note of the location where the information occurred (the number on the counter) in the margin of your notebook and leave some space in your notes. Later, fast-forward to the counter numbers to fill in the material you missed.
- ❑ **Play recorded lectures while you commute.** If you have a long commute to and from school, you may want to record the lectures for your most difficult classes and listen to them while you drive or ride the bus or train. The additional review may help you improve your understanding of the material.
- ❑ **Find a note-taking buddy.** Many students have to miss class due to illness or emergencies. Set up a plan with one of your classmates to let you copy his or her notes in case you're absent. Exchange phone numbers or e-mail addresses to check on any upcoming assignments, quizzes, or exams.
- ❑ **Reduce distractions.** Keep your head down and focus on your notes. Look up to see what's on the board, on the screen, or when the professor changes his or her tone of voice. You can reduce distractions and improve your concentration when you focus on your notes.

As you edit, you'll have an opportunity to review both the text and lecture material together, giving you a chance to integrate the course material. This additional repetition (which requires both critical thinking and an active restructuring of the material) helps you reinforce what you read and heard, leading to a better understanding of the material.

Finally, editing prepares your notes for later review. Because most test questions tend to come from the lecture, it's important to have an accurate, complete, and well-organized set of notes from which to study. As you edit your notes, you can organize the information so that it's easier to learn. When you have details scattered all over the page or across several pages, it's more difficult to study and learn the information. Similarly, if you have details under the wrong headings or too many details under one heading, you won't be able to use the heading as a cue to help you remember the information during an exam. If you develop recall questions as you edit, your notes will be ready for self-testing long before the exam rolls around.

Edit your lecture notes as soon after the lecture as you can, but certainly within twenty-four hours. If you wait much longer, you won't remember the lecture well enough to make any necessary additions or corrections in your notes. Look back at your Fixed Commitment Calendar and set aside a certain time each day to edit your lecture notes. In as little as half an hour, you can turn "so-so" notes into excellent notes.

How to Edit Your Notes

As you edit your notes, you should fill in gaps, check for accuracy, clarify meaning, rewrite to improve organization, and write recall questions in the margin.

Fill in the Gaps

The first thing you should do is read through your notes and fill in any missing information that you can recall from memory. As you read your notes, the lecture will come back to you. You may be able to add a few words to further clarify a point, fill in additional details, or even add information that you didn't have time to record during the lecture. Look at Nikki's edited Life Science notes in Figure 5.8. Nikki added some additional information (shown in blue) after the lecture. Nikki also added a brief summary of the key information in the bottom margin of her notes.




You also can refer to your textbook to help fill in gaps in your notes. If you still feel your notes are incomplete, you may need to use a friend's notes to expand on those you took in class. If you recorded the lecture, listen to the recording and fill in the information you weren't able to write down.

Check for Accuracy

As you go through your notes, check for accuracy. If you notice any incorrect information in your notes or if you're unsure of the accuracy of some points, check with your professor, a friend, or in your textbook to verify whether the information is correct. If you find incorrect information, change it. Some students lose points on an exam because they have incorrect information in their notes. Has that ever happened to you? Even though you may spend many hours studying for an exam, you could still get questions wrong because the information in your notes is wrong.

FIGURE 5.8

Nikki's Revised
Notes for Life
Science

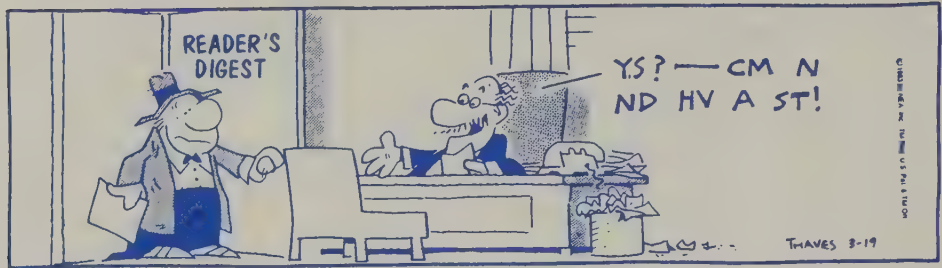
	1/22
	(3) Decomposers
What are decomposers?	- heterotrophs
	- get nourishment from other organisms
	- do not have digestive tracts
	(4) Scavengers
What are scavengers?	- let something else kill organism
	- bacteria that break down dead tissue
	(5) Waste feeders
What are waste feeders?	- type of scavenger
What do they feed on?	- feed on dung, feces, undigested food
	- have digestive systems
	- eat food
	Ex: Egyptian scarab beetles
What is detritus?	detritus - miscellaneous organic material passing by
Give two examples.	- mixture of decaying organisms + dung w/partially digested food
	Land - mixes w/soil - earthworms/soil insects eat
	- May float or settle on bottom
	(6) Filter feeders
How do filter feeders eat?	- pass water thru comb-like feeders
	- take things floating in water
	- may use mouth parts, gills, special limbs
	Four types of consumers are decomposers/scavengers, waste feeders, and filter feeders. Detritus is a mixture of decaying organisms + dung along with partially digested food.

Note: The information in blue was added during editing.

Clarify Meaning

You may find that some of your notes are cryptic or hard to understand. To make your notes more readable and understandable, you may need to expand some abbreviations, finish some words, or correct spelling errors. If you use a lot of abbreviations or shortcuts in note taking, you should try to clarify some of them while you still know what words they represent. For example, if you wrote "priv" in your notes, you may want to add on "ileged" after class, because "priv" is not a common abbreviation and you may become confused about what you meant when you re-view your notes at a later time. It's not necessary, however, to go back and add on

the tail ends of all words that you shortened or abbreviated. For example, the abbreviations “w” and “w/” are commonly used to stand for “with,” so there would be no need to write out the word.



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Rewrite to Improve Organization

You may need to rewrite your notes in order to improve the organization of the information. If you took notes on a lecture that was poorly organized, your notes may be disorganized, too. Even though you may have an accurate record of the information, you may find it difficult to study. By reorganizing the information in your notes, you can clarify the relationship between the headings and the supporting details. You may need to add headings or make the headings that you have in your notes stand out. You can do that by writing the headings next to the margin and then indenting the subordinate points. You also may need to reorganize your notes in order to group together related information. If your professor tends to jump from point to point during the lecture, you may find that information on the same topic is scattered over several pages in your notes. As you rewrite your notes, group those points together under the appropriate heading. Trying to recall too many details with one heading (one cue) can also be a problem during the exam. You may need to cluster the information under subheadings so that you have more cues to aid your memory.

Compare Amy's original Geography notes (Figure 5.9) with her revised notes (Figure 5.10). All of the information in blue was added after the lecture. What changes do you see that improved the overall organization of the information? What other changes did Amy make as she edited her notes? Which set of notes would you rather study from?

Develop Recall Questions

Adding recall questions in the margin helps you learn the information in your notes. *Recall questions* are questions you write that can be answered by the important information in your notes. The process of making up these questions forces you

FIGURE 5.9

Amy's Original
Geography Notes

	Canada	2/21
	Boreal Forest	
	Coniferous/extends to Russia, China, Scandinavia	
	Permafrost on a lot of country	
	2nd largest country in world	
	Part of livable country is permafrost 10% of year	
	Most of population in southern Quebec & Ontario/Along Great Lakes	
	Population	
	30 1/2 million about	
	1999 Nunavut	
	Became a new province/Aboriginal Canadians	
	English is mother tongue/many speak French	
	Didn't become self government until 1901	
	Capital became Ottawa in 1960s	
	Under the constitution, Quebec has the right to break away from Canada/Cree said . . . ?	
	60% of population lives on 2.2% of land	
	85% live w/in 185 miles of U.S. border	
	59% speak English/24% French/16% other/1% Aboriginal	

to identify the information that you'll need to learn for the exam. Before you can generate a question in the margin, you need to identify the answer. Once you figure out the answer, formulate a question that would serve to prompt your memory for that answer. Use part of the information in your notes in the question and part of it as the answer. Be sure to write the question directly across from the answer. Then highlight or underline each answer.

Developing both broad and specific questions will help you learn the information in different ways. Of course, the more questions you write, the more effectively you can use them to study the information in your lecture notes. The words in your recall questions serve as cues to prompt your memory (for the answers) when you quiz yourself before the exam and later when you're taking the exam. Questions have been added to the recall column for the notes in Figure 5.11. Notice the wide variety of questions that Carrie used and how she shaded each of the answers. Nikki's and Amy's notes in Figures 5.8 and 5.10 also include recall questions in the margin.

FIGURE 5.10

Amy's Revised
Geography Notes

	2/21
	Canada
What rank (in order of land size) is Canada?	General Information 2nd largest country in world
When did Canada become self-governed?	Became self-governed in 1901 after French & Indian War
In the 1960s which city became the capital?	Constitution recognized Ottawa as capitol in 1960s
? % of population lives on	Population
? % of the land?	60% of population lives on 2.2% of land
How many people occupy Canada?	30.6 million people ex: fewer than state of Calif (33 million)
What % of pop. lives w/in 185 mi of U.S.?	85% lives w/in 185 mi of U.S. Most of pop. in S. Quebec & Ontario/
What bodies of water do most Canadians live by?	Middle Manitoba/Saskatchewan, & Alberta/S. British Columbia/All along Great Lakes & St. Lawrence River
The province Nunavut was created for what purpose?	1999 – New province – Nunavut/created for Aboriginal Canadians (Eskimos)/called “First Peoples”
	Language
What % of Canadians speak English? French?	English as Mother Tongue/many French 59% speak English/24% French/16% other (primarily Chinese)/1% speak First Peoples
	Land
How much of Canada is permafrost?	1/3 land is permafrost part of inhabited land is permafrost 10%/yr
What forest extends the whole way to Asia?	Boreal Forest – coniferous trees/extends to Russia, China, Scandinavia

Note: The information in blue was added during editing.

REVIEWING YOUR NOTES

Reviewing your notes is the final step in the note-taking process. Even though editing your notes provides you with an initial review of the lecture material, you need to review (study) your lecture notes on a regular basis in order to store and maintain the information in your long-term memory. You can review your notes when you're waiting for your next class to begin. You may want to set aside an hour or two each weekend to review the notes that you took in all of your classes during the week. If you've been reviewing daily, you'll need only to test your memory

FIGURE 5.11

Carrie's Recall Questions

	Learning
	Learning def.
What is learning?	change in behavior resulting from exper
	Habituation
	Simplest form of learning
What is habituation?	no response to a stimulus after repeated exposure
Give an ex. of habituation	ex: bird no longer afraid of scarecrow
	highly adaptive
What does habituation allow animals to focus on?	allows animals to focus on relevant things
	Imprinting
What does imprinting involve?	involves both innate behavior & experience
What type of learning is imprinting?	learning that is irreversible
What is the result of imprinting?	results in a strong bond between new offspring and parents
When does it occur?	occurs at a specific period in an animal's life
	Sensitive Period
What is the name of the period when certain learning behaviors can occur?	phase in an animal's life when the learning of certain behaviors occur.
Who studied imprinting in geese?	Konrad Lorenz
What kind of geese were used?	used greylag goose to demonstrate imprinting
How did he conduct the experiment?	divided batch of eggs, some to mothers some in incubator
What was the control group?	control group: ones with mother
How did the geese in the control group act?	showed normal behavior and interacted with other geese

Note: The answers to the questions are highlighted in blue.

(using the headings and recall questions) during your weekly review. Reviewing your notes frequently during the term will keep you actively involved in the learning process and will reduce the amount of time you need to study before exams.

Just reading over your notes, however, is a very passive activity. A more active way to review your notes is to recite the information in the form of a self-test—to practice it without looking. By reciting from memory, you can learn the information at the recall level of learning. Reciting out loud or mumbling the information also helps because you may learn more by hearing information than just by seeing it. Use the headings in your notes and the recall questions that you created to test your memory. This self-testing lets you know what you do know and what you still need to practice. Self-testing can help motivate you to keep working until you know all of the information in your notes. If you haven't already done so, try it!

Recite from the Headings

You can review your notes by using the headings to prompt your memory. After you review your notes a few times, cover the information under each heading and try to recite all of the details related to that topic. Take your hand away and check to see how much of the information you got right. Continue to practice until you can recite all of the information. Then recite all of the details you can remember under each of the subheadings in your notes. Go back and check your notes to see whether you missed anything. If you study in a place where you can't recite out loud, you can accomplish the same thing by mumbling quietly to yourself or by writing out the information from memory. Repeat this process until you know all the information in your notes. This review method helps you learn the material in an integrated (connected) way. You need to learn the material in a connected way in order to answer essay and many short-answer questions. You may also need to know information in an integrated way to answer some multiple-choice, matching, or true/false questions.

Recite from the Recall Questions

When you think that you know the information in your notes, use the recall questions to test your memory of the information a different way. Put your hand or a piece of paper over your notes so that you can see only the recall questions. Then recite the answers to your questions out loud. Then slide your hand or paper down to check your answer before moving on to the next question. Continue practicing until you know them all. This review method helps you learn the material in an isolated way—you learn specific answers to specific questions. Learning information in an isolated way also helps you distinguish between closely related information. During the exam, it's easy to confuse two terms, for example, that you studied which are very similar. Although you may not be able to provide all of the information needed to answer essay questions and some short-answer questions, you should be able to answer multiple-choice, true/false, completion, and matching questions by reciting the answers to your recall questions.

Talk About the Information with Others

Another way to study the information in your notes is simply to talk about it. Putting the information in your own words and explaining it to others is an excellent way to move it into long-term memory. When you explain something out loud, you tend to put the information into your own words. That helps you understand it and makes it easier to learn and remember. Get together with your note-taking buddy or a study group to review your notes. You can take turns discussing the information (be sure you do some of the explaining), predicting additional test questions, and quizzing each other on the information. You can also teach the material to someone or something (a plant, a stuffed animal, the lamp, or your dog can be a

great listener). Sit with your notes open and look at your “study partner” and teach him or her (or it) the material.

SUMMARY

Taking good lecture notes in college is critical to your success because the primary mode of instruction for most college professors is the formal lecture. Without an accurate record of information from the lecture, you won't have good information to review before the exam. However, just taking notes doesn't mean that you took good notes. The two most important criteria in evaluating the quality of your notes are content and organization. To take good notes, you have to be actively involved in the lecture; you need to be an active listener. Many students get caught up in fancy note-taking systems. Using a simple system such as the informal outline, block, or modified-block will help you focus on the lecture material. These systems involve writing down each topic (the headings) and then jotting down the details—any information related to each heading.

After the lecture, edit your notes within twenty-four hours. Checking the accuracy of your notes, filling in gaps, creating recall questions, and improving the organization of your notes are all active editing processes. When reviewing your notes, passive studying (like reading over your notes) doesn't help much. Instead, study your notes by reciting out loud from the recall questions or from the headings. Talk about the material, explain key points to a friend, or try to reconstruct the lecture from your headings or recall questions.

ACTIVITIES



1. Why do you take lecture notes in each of your classes? What motivates you to take good notes? Create a chart to record your responses. Put the following headings across the top of your chart: Class Name, Promotes Active Listening, Accurate Record of Information, Better Organization, Repetition, Other. Write the names of each of your courses down the left hand column in your chart and then put a check mark in the boxes to indicate your reason(s) for taking notes. If you have a different reason for taking notes, list it in the “Other” box. Share your responses with a group of your classmates.



2. A good set of notes should stand the test of time. Try the following exercise several times during the term. Be sure to test the notes from each of your classes. Go back to the notes that you took yesterday in one of your classes and read them. Do they make sense to you? Do you feel as though you're sitting in the lecture and hearing your professor talk about the topic? Now go back to the notes that you took two weeks ago. Do they still make sense? Do you feel as though you understand and can recall all the information from the lecture? Do you need to make any changes in the way you take notes?



3. Go to the Web site and download one copy of Activity 5-1 from the Activities Packet. Practice condensing the statements into meaningful phrases. Compare your notes with those of the other members of your group.



4. Go to the Web site and click on the link for the listening test under Chapter 5. As you check your listening skills, respond to the questions according to the way you typically feel and act in lecture classes.
5. After the first exam, reread your lecture notes, looking for information that appeared on the exam. Did you find the answers to most of the questions? Did you find that the answers to many of the test questions were missing? Were there any errors in your notes that cost you points on the exam?
6. Make a copy of the lecture notes that you took earlier this week. Exchange your notes with another member of your group. Ask your classmate to explain the course information to you. How similar was this explanation to the original lecture? What information in your notes should be expanded or clarified? What changes would you make the next time you take notes?
7. How many of your professors use PowerPoint presentations? Which ones? What are the advantages and disadvantages of PowerPoint presentations in each of your classes? How would you rate the notes you take in each class? What, if anything, do you plan to do differently? Why? Share your responses with a group of your classmates.
8. Choose a set of lecture notes that you took within the last twenty-four hours. Edit them, making any necessary changes or corrections. Also, write down any additional information you remember. If you know that you're missing specific information, refer to your text or to someone else's notes in order to complete your notes. Finally, add questions in the margin and then practice answering your questions.
9. Download and print the enlarged copy of the lecture notes from the lecture on Piaget's Intellectual Development from the Web site. After you review the notes, write as many recall questions for the important information as space permits. Compare your questions with those of the other members of your group. Did you write questions on the same information?
10. Now that you've completed Chapter 5, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW

- Terms You Should Know:** Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.
- Completion:** Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. The most important reason to take lecture notes is to get a(n) _____ record of information.
2. _____ is an active, selective process.
3. Take notes in _____ ; don't write whole sentences.
4. Writing questions in the _____ provides you with an opportunity to test your memory of your notes.
5. You should edit your notes within _____ of the lecture.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. You can improve your listening skills in all of the following ways except by
 - A. reading along in the text as the professor gives the lecture.
 - B. deciding that you want to listen.
 - C. controlling your emotional response.
 - D. holding yourself accountable for the material presented.
7. Which of the following is not a way to edit your notes?
 - A. Recopying your notes to improve the appearance.
 - B. Rewriting your notes to fill in missing information.
 - C. Rewriting your notes to improve the organization.
 - D. Adding recall questions to your notes.

Short Answer/Essay: On a separate sheet, answer each of the following questions:

8. What are the key features of the informal outline, block, and modified-block methods of taking notes?
9. What are the benefits of taking notes?
10. How should students review their lecture notes?



Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Improving Concentration

CHAPTER

6



"I think I have the ability to concentrate better now than I used to. Before, I used to always drift off while studying, but now when I start to, I catch myself. I can stay focused, and I am able to maintain my concentration much better. I have learned many new techniques for improving concentration, which I have put to use. I believe that when I am able to concentrate on my work, I also study much better."

Martin Ng, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Concentration

Deep concentration

Distraction

External distractions

Focusing at will

Internal distractions

Light concentration

Limiting your focus

Moderate concentration

Multitasking

Sustaining your focus

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you have trouble getting back into your work after you've been interrupted?	_____	_____
2. Do you read and study in a noisy, cluttered room?	_____	_____
3. Do you find that even though you schedule study time, you don't actually accomplish very much?	_____	_____
4. Do you use any strategies to help increase your ability to concentrate?	_____	_____
5. Can you concentrate on your work even if the subject doesn't interest you?	_____	_____
6. Do you text when you're doing your assignments?	_____	_____
7. Do you tend to think about personal plans or problems when you are reading and studying?	_____	_____
8. Do you find that when you finish reading your textbook assignment, you don't really remember what you read?	_____	_____
9. Do you get totally engrossed in the material when you read and study?	_____	_____
10. Do you daydream a lot when you are listening to lectures?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 4, 5, and 9, and 1 point for each *no* answer to questions 1, 2, 3, 6, 7, 8, and 10. Total up your points. A low score (0–4) indicates that you need some help improving your concentration. A score of 5 to 7 indicates that you are using some good strategies but not others. A high score (8–10) indicates that you are already using many good concentration strategies. What did you learn about yourself by completing this activity?

WHAT IS CONCENTRATION?

Concentration is focusing your attention on what you're doing. Concentration is important in just about anything you do, but in this chapter we'll focus on improving concentration during reading, listening, and studying. It's hard to describe what concentration is, but it's easy to explain what it isn't. Consider the following example. If you're reading a chapter in your Introductory Sociology text, you're concentrating on it only as long as you're thinking of nothing else. As soon as you think about how many pages you have left to read, what time you're going to eat dinner, or what the professor will discuss in class, you're experiencing a lack of concentration. If you stop to think about the fact that you should be concentrating on the assignment, you've lost your concentration. Let's look at another example. If, during a lecture class, you get a text message and read it, you've lost your concentration. You may even find that you've missed several new points that your professor just introduced.

Being distracted interferes with your ability to attend to or focus on the task at hand. In each of the above examples, you were actually concentrating on something. The problem is that you were concentrating on something other than the lecture or the reading material—you were concentrating on the distractions.

The Three Levels of Concentration

As you read one of your text assignments, ask someone to time you for about twenty minutes. Each time you think of something else, or even look up from your reading, put a check mark in the margin of your book. At some points during the twenty-minute period, you may have noticed that you were more focused on the material than at other times. Look back at the check marks you made in your book. Did you find that you weren't always concentrating at the same level? Where were most of your check marks located? Were more of them located in the early pages of the assignment? Were there fewer toward the end? Why does this happen?

To understand why students are less distracted toward the end of a twenty-minute reading period, let's take a closer look at how concentration works. Anne Bradley has divided concentration into three levels: light, moderate, and deep¹ (see Figure 6.1).

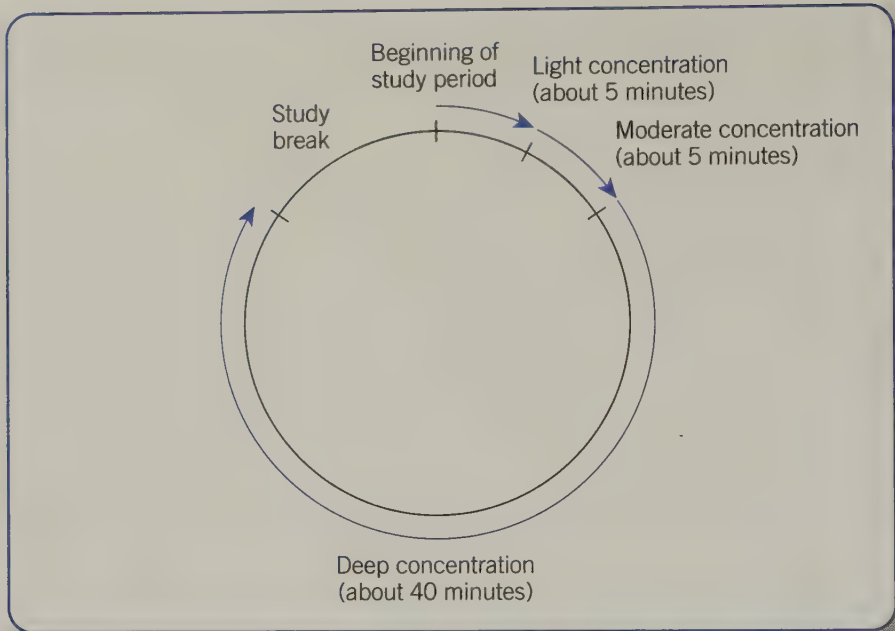
Light Concentration

When you first sit down to read or study, you're in a state of *light concentration*. This stage of concentration continues for about the first five minutes of study. At

¹Adapted from Anne Bradley, *Take Note of College Study Skills* (Glenview, IL: Scott, Foresman, 1983), pp. 41–42.

FIGURE 6.1

The Concentration Cycle



this point, you're just getting settled into your reading, listening, or studying. Students in light concentration can be seen wiggling around in their chairs, checking messages, or pulling out study supplies. When you're in light concentration, you're easily distracted. You may hear people talking down the hall, notice other students walking into the room, be annoyed by any noise occurring around you, or find yourself thinking about other things. You don't accomplish much during this stage, and very little, if any, learning actually occurs.

Moderate Concentration

During the next five minutes or so, if you aren't interrupted, you'll move into *moderate concentration*. At this point you begin to pay attention to the material that you're reading, hearing, or studying. You may find that you're actually getting interested in the lecture or text material. In this stage you'll probably find that you're not as easily distracted. Although you may lose your concentration if someone talks directly to you, you may not notice the voices of people talking down the hall or even someone walking into the room. Some learning occurs in this stage.

Deep Concentration

When you're in *deep concentration*, you are totally engrossed in your work—you aren't thinking about anything except what you are hearing, writing, or reading. During a fifty-minute study session, you should spend forty minutes in deep concentration. Of course, if you're really working well on a task, you don't need to stop

fifty-minute study session. Unfortunately, some students never get into deep concentration. They move back and forth between light and moderate concentration because they are distracted constantly (Figure 6.2B). Every time you're distracted, you move back to the stage of light concentration. If you get a text message and stop to read it, you've been distracted. If you stop to check how many more pages you still have to read, you've been distracted. If you look up when someone walks past you in the library, you've been distracted. If a family member asks you a question, you've been distracted. If you check your e-mail or your phone, you've been distracted. Each time you're interrupted while you're listening to a lecture, working on a homework assignment, or studying for a test, you move out of deep concentration.

If you can minimize distractions, you may find it doesn't take you quite as long to get interested in the material on your second or third try. However, you will still have to move through the "warming up" stages again before you can reach a state of deep concentration. Some students, however, have interruptions that aren't quite as brief. They don't just look to see who called or sent an e-mail or text message; they respond to them. A number of students admitted that they spend ten to twenty minutes or more networking, texting, or talking on the phone during a typical study session (Figure 6.2C). These long distractions use up a lot of study time and require more time to move back through light and moderate concentration. If you tend to study in places where you're often interrupted, your study session may more closely resemble the concentration cycle in Figure 6.2B. Although you may think you're spending a lot of time studying, you may actually accomplish very little.

You may also find that your ability to concentrate varies from text to text (what you study), place to place (where you study), and time to time (when you study). You may have to use more active strategies or different strategies in order to increase your ability to concentrate when you're working on material that doesn't interest you, in noisy or distracting study areas, or even at different times of the day.

Three Types of Concentration Problems

Most students have concentration problems, but not all students actually have the same problems concentrating. There are three types of concentration problems: difficulty focusing at will, difficulty sustaining your focus over a period of time, and difficulty limiting your focus to one task at a time.²

Focusing at Will

Have you ever noticed that you have difficulty concentrating when your professor begins to lecture? You may find yourself looking around the room, pulling out your

²Becky Patterson, *Concentration: Strategies for Attaining Focus* (Dubuque, IA: Kendall Hunt, 1993).

notebook and pen, or even thinking about whether you'll get out of class early. If you have trouble focusing your attention at the beginning of the lecture, you may have difficulty *focusing at will*—being able to turn your attention to the task the instant you begin working.

Why can some students concentrate immediately while others find it difficult to focus their attention? Many students have developed techniques to focus at will. If you've ever competed in sports, picture yourself at that critical moment when you're about to "make your move." Do you go through a ritual designed to calm yourself, to focus your attention, to remove all other distractions? Ball players, bowlers, tennis players, and runners (just to name a few) all have strategies for focusing their attention just as they shoot a foul shot, attempt a difficult split, serve, or begin a race. Of course, listening to a lecture, writing a paper, and reading a text chapter aren't exactly the same as sporting events, but you can use the same techniques to focus your attention.

Some students use self-talk to focus at will, saying to themselves things like: "Pay attention; Okay, I need to do this; Let's get going now!" However, creating a verbal prompt is only one way to help you focus at will. Other students find that creating physical prompts are just as effective. Taking your seat and pulling out your notebook and pen (or opening your laptop) may be enough to focus your attention in a lecture class. Some students can instantly begin to concentrate when they sit down at a table or desk, open a textbook, or begin to work on the computer. Anything that you associate with concentrating on your work can help you learn to focus at will.

Sustaining Your Focus

Although learning to focus your concentration immediately is important, *sustaining your focus*—maintaining your concentration over a period of time—is also important. As you learned in the previous section on the concentration cycle, this isn't as easy as it sounds. Some students have difficulty maintaining their concentration no matter what the task. Other students, however, can concentrate for long periods of time when reading their text assignments but are constantly distracted when doing their math, and vice versa. What makes the difference? Obviously, distractions that occur when you're working will interfere with sustaining your focus. However, the difficulty level of the task, your interest in the material, and your level of motivation all could be factors. In the next two sections, you'll learn more about the causes of poor concentration and some suggestions for improving concentration. Many of the strategies described will help you sustain your concentration for a longer period of time.

Limiting Your Focus

The final concentration problem involves *limiting your focus*—being able to focus on only one task at a time. You may find this to be especially difficult during

high-pressure weeks. You need to learn to focus your attention on one page in your text (without looking over at the English paper you must do for tomorrow), one math problem (without thinking about how many others are on the page), or studying for one exam (without thinking about the other two you have this week). Strategies that involve creating a good study environment can help you avoid distractions. The strategies that you learned for setting goals, managing your time, and establishing priorities will also help you focus on one task at a time.

CAUSES OF POOR CONCENTRATION

Have you ever found that you're sitting in a lecture class thinking about what you want to do after class, rather than focusing on the lecture? If you're like most students, you have. Many students daydream, think about other things they need to do, or look out the window at some point during class. When that happens, they are concentrating on something else—they are distracted. A *distraction* is anything that diverts your focus (attention) from the task at hand. There are two main types of distractions that interfere with concentration. *External distractions* come from outside of you and include noises such as the ping of a text message, your phone ringing, the beep of an e-mail message, other people talking, the television show you're watching, or the music playing in the background. *Internal distractions* are things that come from inside of you. They are things you think or worry about. Some common internal distractions are anxiety caused by a certain course, the feeling that study won't help, worry over personal problems, feelings of boredom, dislike for a course or assignment, and indecision about what to do next. Many students even worry about the fact that they can't concentrate, and that worry interferes further with their ability to concentrate on their work.

Although internal and external distractions appear to be the causes of concentration problems, they actually stem from other problems. The real causes of most concentration problems are lack of attention, lack of interest, and lack of motivation.³ By identifying the real reason for your concentration problems, you'll be able to select the appropriate strategy to overcome each of them.

Lack of Attention

One of the most common causes of concentration problems is lack of attention. Many students have difficulty focusing on their work. Do you? If you said yes, you may have concentration problems because you are constantly surrounded by

³Based on ideas from "AIM to Listen," from *The Secretary* magazine, reprinted in *Communication Briefings*, 1991.

distractions. In order to move into deep concentration, you need to reduce those distractions. Turning off the television, muting your phone, and establishing a good study environment will help you move into deep concentration. Then you won't even notice many of the external and internal distractions that would have interrupted your concentration.

Lack of Interest

You've probably already found that it's easy to concentrate when you're interested in what you're doing. Do you find that you can concentrate well in some lecture classes but not in others? Is it easier to stay involved in your reading in some of your texts but not in others? If you answered yes to either of these questions, your level of interest in the course or in the material may be the reason for your concentration success in one course and difficulty in the other. Without a high level of interest, it's easy to lose concentration, especially when you're surrounded by distractions.

Lack of Motivation

Lack of motivation is another cause of poor concentration. If you aren't motivated to earn a college degree, it's hard to go to class, read your text assignments, take lecture notes, and prepare for exams. If you ever find yourself asking, "Why am I doing this assignment?" "Why am I sitting in this class?" or "Why am I in college?" you may have a motivation problem. If you don't see the relevance of the course or the assignment, it's hard to stay focused on the task. If you aren't motivated to earn high grades, it's going to be very difficult to exert the level of effort you need to do well. To improve your ability to concentrate, you need to be motivated to succeed. As you know, motivation affects what you do and how you do it. When you're motivated to learn something, you're more likely to create an atmosphere that is more favorable to learning, push yourself to focus on the task, and use active strategies to increase your concentration.

Concentration Problems During Lecture Classes

Many students experience problems with concentration when they're trying to listen and learn in class. Do you ever have trouble concentrating on the lecture your professor is presenting? What gets in your way? One of the more common problems is distractions caused by other students. It's hard to concentrate on what your professor is saying when the person sitting next to you is constantly talking to you or to someone near you. Even a conversation two or three rows behind you can interfere with your ability to stay focused on the lecture.

Internal distractions also lead to concentration problems during lecture classes. Worrying about personal problems and thinking about what you have to do after class are common internal distractions. Feeling ill, hungry, or tired are all common internal distractions.

Do you have more trouble concentrating when you're not interested in the lecture topic? It's more difficult to pay attention to the lecture when the topic is uninteresting or hard to understand. Some students have problems when they're not actively involved in the class; they have difficulty playing the role of a passive observer. Other students complain that it's impossible to stay involved and focused on a lecture when the professor always mumbles or speaks in a quiet voice. Still others have problems when the professor doesn't ask questions or interact with them during the lecture.

Finally, some students have concentration problems during lecture classes because of their attitude toward the class or the material. Do you have more trouble concentrating when you place a low value on the course? It's hard to sustain your focus when you aren't motivated to listen and take notes. In situations like this, many students begin to daydream, think about more interesting things, or even doze off.

Concentration Problems When You Read Your Text

Do you have trouble concentrating when you read some or all of your text assignments? Many students indicate that they have more trouble concentrating when they read than at any other time. Unlike lecture classes, where your professor may help keep you focused by varying his or her tone of voice or by asking questions, you alone are responsible for concentrating on your reading assignments.

External distractions such as a cluttered or uncomfortable study environment, noise, and other people, are common causes of poor concentration when reading. How many times this week were you interrupted as you tried to read a text assignment? Do you need complete silence in order to concentrate on your reading assignments? If you live in a dormitory, finding a quiet study place can be quite a problem. However, students who live at home find that a family can be just as distracting.

The time of day that you tackle your reading assignments also can affect your ability to concentrate. If you try to do your reading late at night, you may experience more difficulty staying focused because you're tired. Concentration requires effort, and it's harder to make that effort when you're tired. Have you noticed that it's more difficult to concentrate on the road when you're driving late at night and feel tired? For the same reason, many students have more difficulty maintaining their concentration when they try to read late at night or for long periods of time without a break.

Concentration Problems When You Study for Exams

Some students have a lot of trouble concentrating when they're preparing for exams. Aside from the usual external distractions, they often experience other types of problems. Some students are not as motivated to focus on the task of test preparation early in the semester because they don't put as much value on the first exam. Other students get distracted when they study because the material is difficult or uninteresting. Some students have concentration problems because studying is not a specific assignment like "read pages 186 to 201." Any time your goals are vague or you're not sure what to do, it's more difficult to stay focused.

A common complaint from students is that they get tired of studying and begin to think of other things. Some think about things they would rather be doing or things that their friends, who don't have exams, are doing. Worrying about what the test will be like, what questions will be on it, and how well you will do are all common internal distractions.

Using passive study strategies also leads to poor concentration when preparing for exams. Many students still study for college exams by simply reading over the text and lecture material. If you use passive strategies, you'll be more susceptible to both internal and external distractions.

STRATEGIES FOR IMPROVING CONCENTRATION

By now you probably realize that problems with concentration are fairly common for college students. Although it may make you feel better to know you aren't the only person in the world who can't concentrate, it doesn't help you correct the problem. Many students indicate that they have a problem concentrating, but they don't know how to correct it. You can improve your ability to concentrate by using motivational and organizational strategies, by creating a good learning environment, by dealing promptly with internal distractions, by using active learning strategies, and by monitoring your concentration.

Use Motivational and Organizational Strategies

You can improve your concentration by using many of the motivational and organizational strategies that you learned in Chapters 1, 2, and 3. Several of the most helpful strategies are having a positive attitude, creating interest in the task, setting goals, and using time-management strategies.

Develop a Positive Attitude Toward Your Work

Having a positive attitude toward your assignments is critical to focusing at will. First, you must want to do the assignment. You need to see the relevance, value,

and importance of the task. Before beginning the task, think of how it will benefit you. Second, you must believe that you can do the assignment. Tell yourself you can successfully complete the task. Self-doubt, or feelings of anger or frustration about the task, will interfere with your concentration. A positive attitude will help you focus as you begin to study and help sustain your focus until you complete the task.

Create Interest in the Task

Have you found that when you're interested in the material, it's easier to concentrate? If you're getting ready to read a chapter for your Western Civilization class, for example, and you really aren't very interested in what happened in Egypt 5,000 years ago, you might have difficulty sustaining your focus. You need to find ways to generate interest in the task. One way to do so is to preview a chapter before reading it. As you look through the chapter (see Chapter 7 for how to do a preview), you may notice topics that are interesting to you. I've always been fascinated by the great pyramids, have you? If you find even one section in the chapter that sounds interesting, you'll increase your motivation to read and may find that you can concentrate more on the chapter.

Another method of generating interest in the task is to change the task to make it more interesting. If you find reading chapters to be boring, don't just read them. Do something interesting while you read. If you like taking notes, take notes as you read. If you like writing questions in the margin of your lecture notes, write questions in the margin of your text as you read the chapter (see Chapter 8). If you like using a particular study strategy—if you find it interesting, challenging, or fun—you'll like completing the original task more.

Breaking the task down into smaller segments will also help you maintain your concentration. You can stay more focused on the material when you read ten pages of the chapter at a time instead of trying to read the entire chapter. If you aren't particularly interested in your math assignment, you may find that doing one-third of your math homework is less boring than trying to do it all at one time. Switch to a different subject for a while and come back later and do some more.

Use Goal-Setting Strategies

Setting clear, specific goals can also help you achieve better concentration. If you know exactly what you want to accomplish when you begin an assignment, you'll be able to limit your focus to the task at hand. Setting learning goals can help you determine what you need to learn or accomplish during a specific study session. It's equally important to know exactly what you need to do to complete the assignment—you need to understand what the professor expects from you and what the grading criteria will be. If you aren't sure about how to do the assignment, check with a classmate or your professor. If you don't, you may find that

you'll have problems concentrating on the task because you'll be worrying about whether you're doing it correctly. Having a clear purpose in mind can help you limit distractions as you complete your work.

Use Time-Management Strategies

Almost any of the time-management strategies that you learned in Chapter 3 will help you improve your concentration. Using "To Do" lists and planning calendars are critical to good concentration. One of the most common internal distractions among college students is the worry that they won't get their work done. Many students report that they're constantly thinking of other assignments when they try to concentrate on their work. Do you? If you develop a study schedule each day and assign each of your study tasks to a specific time block, you won't have to worry about getting your work done. You'll be able to focus completely on each task as you work on it, knowing that you have already scheduled all of the others. By organizing your study time, you can better focus your attention on one task at a time.

Create a Positive Learning Environment

You can dramatically improve your ability to concentrate by creating a positive learning environment. The first step is to control external distractions, and the best way to do so is simply to eliminate them. If you can't eliminate them, then you need to reduce the amount of time you spend on the distractions. Some specific strategies are listed in the Tip Block. You'll find that where you choose to do your work, though, is a major factor in contributing to or reducing problems in concentration.

Find a Better Location

In lecture classes, you can avoid most external distractions by moving to the front of the room. Fortunately, most students who chat during class tend to sit in the back. However, you still occasionally may find yourself sitting near some noisy students. If the students sitting near you keep you from concentrating on the lecture, get up and move. You also can be distracted by things going on around you. If you find yourself looking out the window or watching what goes on in the hall, find a seat where you can't see out the window or the door. Instead, make the professor the center of your line of vision.

Although it's fairly easy to find a new seat during lecture classes, it's not as easy to find a new place to study when you can't concentrate. Whether you live in a dormitory or at home, you're surrounded by noise. Some students stay in their rooms or work at the kitchen table even when they can't concentrate, almost out of stubbornness. "It's my room and I should be able to work there" is a commonly heard



Ten Tips for Setting Up a Good Study Environment

- ☐ **Find a quiet study space.** Find a place to study that is away from the center of the dorm or household activities. It's almost impossible to concentrate if you're surrounded by distractions. A card table in the basement may not look pretty, but the quiet will make up for it. If you can't study in your room on campus, try the library or a quiet study room.
- ☐ **Limit your distractions.** Put your desk against the wall and remove all photos, mementos, and decorations. When you look up from your work, you won't be distracted by reminders of your friends or family or other responsibilities.
- ☐ **Use your desk for studying only.** If you use your desk only for studying, you will automatically think about studying when you sit down.
- ☐ **Study in a not-too-comfortable chair.** Sitting in a chair that is too comfortable may lead to falling asleep. Completing assignments is hard work, so you need to study in a semi-tense position.
- ☐ **Never study lying down in bed.** You'll have trouble concentrating and may get so comfortable that you fall asleep.
- ☐ **Turn off your phone or screen your phone calls.** If you're constantly interrupted by text messages or phone calls, set your phone on silent. Check your messages during your ten-minute study break.
- ☐ **Turn off the television and turn off your iPod.** If you need some sound to serve as a "white noise" to block out the other noises around you, use soft, familiar music.
- ☐ **Avoid studying in front of your computer.** If you find that you tend to check your Facebook page, e-mail, or other Internet sites every few minutes, you need to move away from your computer when you do your work.
- ☐ **Do your work when your house is quiet.** Study when family members are asleep or out. Schedule study hours before your children get up and after they go to bed. If you get home from work or school an hour before they do, use that time to do course work.
- ☐ **Consider studying at school.** If you can't concentrate at home, you may have to do your work at school, before or after class. You can often find an empty classroom, quiet corner in the library, or study area in the student union. Compare your distractions when studying on campus and at home.

statement. But if you've tried unsuccessfully to eliminate the distractions in your study area and you still can't concentrate on your work, you have only one other option. You need to find somewhere else to study. It may not seem fair that you have to gather up all your materials and go somewhere else, but if you can't change your study environment, you have to find a new one. Finding a good place to read and study may require some experimentation. Try working in different places at different times of the day to see which study area works best for you. The library, study rooms, and empty classrooms are usually good study areas. If you're living at home, you may find that setting up a table or desk in the basement or the attic is

the only way you can avoid constant interruptions. Once you find a good place to work, establish a regular routine. Studying in the same place at the same time each day helps you get down to work and can improve your concentration.

Reduce Multitasking

Multitasking originally was a term used to refer to the performance of more than one task at a time by a computer. Today, *multitasking* is often used to describe the performance of multiple tasks at one time by people. What do we mean by multitasking? If you're reading a chapter in one of your texts and stop for a few seconds to check the text message that just popped up on your phone, you're multitasking. If you're typing a paper and talking on your cell phone at the same time, you're multitasking. If you're doing your math while watching the game on TV, you're multitasking. You may be thinking that everyone does such things. You're probably right. You are surrounded by technology; in fact, you are surrounded by technology that is always on, because you don't like being out of touch. In class, most professors expect their students to turn off their cell phones. Some do; some turn them to mute. Some students can't resist the vibrating cell and quickly check to see who called or check a text message. Do you? Students in large classes (especially if they sit near the back) admit to texting throughout the class.

Does multitasking interfere with performance? More and more people are researching that topic, especially as it relates to talking on cell phones while driving and to surfing the Net while working. The answer so far is that there is definitely a problem. Most studies indicate that neither task is performed as well as it could have been if it had been done exclusively. One reason for this problem is that you are constantly shifting your attention from one task to the other. Obviously, this interferes with concentration. If you're texting while listening—or watching television while studying—you're interrupting your concentration every time you shift from one task to the other. If you're trying to send a text message while listening to a lecture, you can't focus on what your professor is saying (or write down the information) and, at the same moment, type the message.

Minimize Distractions

If you can't eliminate all of your distractions, it's important to minimize them as much as possible—to reduce the length of each distraction to the smallest possible time frame. For example, if your phone rings and you answer it, you'll probably spend a few minutes (or many minutes) responding to the caller. If, on the other hand, you set your answering machine or voice mail to pick up your call, you'll spend a much shorter time frame dealing with the call. When you hear the phone ring, you might say to yourself, "I'll get that later," go right back to work and return the call when you complete that particular task. To avoid being interrupted by text messages or e-mail, mute your computer and phone. Check your mail during your

ten-minute study break. If you must peek to see who's sending a text, tell yourself you'll respond as soon as you finish your work. If you only spend a few seconds on a distraction, you should be able to move back into deep concentration very quickly. If you spend five or ten minutes (or longer) away from your work, you'll find it takes a lot longer to get back into deep concentration.

Deal with Internal Distractions

Once you set up a quiet study environment, you should see a big difference in your ability to concentrate. However, just eliminating external distractions doesn't guarantee that you'll be able to focus on your work. Many students find that after they eliminate the external noises around them, they notice the internal "noises" even more. Although you can't really eliminate internal distractions, you can take steps to keep them from interfering with your work.

Deal with Competing Activities

No matter how focused you are when studying, it's not unusual to think about other things. If you think of something that you want or need to do, or if you come up with an idea for another assignment, jot it down; then continue with your work. The key is to minimize the distraction—to keep it as short as possible. Then you can move back to deep concentration more quickly. If you don't write it down, you'll probably continue thinking about it or even begin to worry that you may forget it. In either case, you'll be concentrating more on the internal distraction than on your assignment.

Deal with Academic Problems

Worrying about academic problems is another common internal distraction. Instead of worrying, do something! Go see your professor and share your concerns about the course. Get a tutor or have a talk with yourself about what you need to do to meet your goals. Remind yourself that getting down to work and doing your best are steps in the right direction. Then, if you still don't understand the material or can't do the problems, ask for help. Remember, it's easier to block out internal distractions when you have confidence in yourself as a student. You'll gain this confidence by learning that you can be successful in college, not by worrying about it.

Deal with Personal Problems

Personal worries and concerns are common internal distractions. Many students allow an argument with a boyfriend or girlfriend or family problems to interfere with their concentration. Make a decision to do something about your problem as soon as you complete your work. Write down exactly what you plan to do and return immediately to your study tasks. Call a friend and talk honestly about your

problem or schedule an appointment at your campus counseling center. Some students find that writing about whatever is bothering them in a journal or talking it out with friends helps them experience a feeling of closure about the problem.

Use Active Learning Strategies

One of the best ways to keep external and internal distractions from interfering with your concentration is to become more involved in the lecture, the text, or your test preparation. You can generate this high level of involvement by using active learning strategies. Many students allow internal and external distractions to interrupt their study because they use passive learning strategies that just don't work.

You may have noticed that you concentrate better when you do math problems and grammar exercises or complete a study guide for one of your textbooks. Why does this happen? One possible reason is that you like those classes or assignments more than some of your other classes. However, another reason may be that you need to use active learning strategies to complete those tasks. Solving problems, correcting grammatical errors in sentences, and looking for answers to study guide questions are all active strategies that get you involved in and help you focus your attention on the material. Because you're actively involved when working on the material, you can concentrate more effectively on your assignments.

Strategies for Lecture Classes

Taking notes during the lecture helps you focus on what your professor is saying. If you know that you're going to have to write something, you'll be more motivated to pay attention. You may actually find that lecture classes become more interesting and go much faster when you take notes.

Many students have trouble concentrating during lecture classes simply because they're not actively involved in what's going on in the class. Asking and answering questions, predicting what the professor will say next, and taking notes are all ways of becoming more involved during lecture classes. Actively participating in class is one way to eliminate internal and external distractions and increase concentration.

You may also find that you can increase your concentration in lecture classes by sitting directly in your professor's line of vision. You're more likely to pay attention if you feel as if you're on the spot. It's pretty hard to fall asleep or look out the window when your professor is standing right in front of you. If you focus your attention on the lecture and take notes, you'll be able to block out distractions more easily.

Strategies for Reading Text Assignments

Being an active reader significantly improves your ability to concentrate on your textbook assignments. Have you ever read a paragraph—or even an entire page of text—and then realized that you had no idea what you had just read? Even though

your eyes did “look at the words,” your mind was elsewhere. Using a reading/study system, previewing, highlighting, and taking notes are active strategies that can improve your concentration. You can also increase your concentration by creating word cards as you read your assignment. Becoming familiar with the technical terminology can help you understand your reading assignment more easily. Writing questions in the margin also helps you focus on the important information in the text. We’ll talk more about all of these strategies in Chapters 7, 8, and 9.

Strategies for Test Preparation

How can you maintain your concentration as you prepare for exams? Jennifer sums it up well: “When studying for a test, I’m active. I don’t just reread my notes and the chapter. I write down what I need to know from the text and then I rewrite my notes.” Just reading over the textbook and your lecture notes isn’t a very effective way to improve your concentration when you study. You need to increase your involvement with the material. When you prepare for an exam, dig through the material, looking for the important information. You can’t take notes, create study sheets, or write questions in the margin without thinking critically about the material. Reciting key information out loud and self-testing are just two of the many rehearsal strategies that also can help you learn the material. Remember: The more actively involved you are in studying the material, the easier it is to maintain your concentration.

You can also increase your concentration by using motivational strategies. Maria motivates herself to study by thinking about getting a good grade, saying: “You just need to make the decision that you want to succeed.” Taking breaks, switching subjects, and planning rewards help increase your motivation, and they also can help increase your concentration. It’s much harder to stay focused on your work when you become tired or bored. When you just can’t concentrate anymore, stop and take a break. Then switch to a different subject to eliminate feelings of boredom and fatigue. Setting deadlines and limiting the amount of time that you allow for each of your study tasks also can motivate you to concentrate more effectively. Deadlines make you feel rushed, so you actually force yourself to concentrate better (unless you’ve left yourself too little time—in that case, your level of anxiety and the number of your internal distractions may increase).

Monitor Your Concentration

Monitoring how often you lose your concentration can be very helpful in learning how to improve your concentration. Put a check mark in the margin of your book or your lecture notes every time you’re distracted. At the end of your class or study session, count the number of interruptions. Make a commitment to reduce that number the next time you read or go to your lecture. In a few weeks, you may find that your ability to concentrate improves dramatically.

When you notice that you're daydreaming or thinking about other things, try to figure out what actually triggered your loss in concentration. If you can pinpoint the cause of your distraction, you're only one step away from the solution. Hold yourself accountable for your lapses in concentration—find a way to overcome them. Remember, you can improve your ability to concentrate, but it is you who must take the responsibility for doing so.

BENEFITS OF IMPROVED CONCENTRATION

There are many benefits to improved concentration. One of the most obvious is that you'll be able to make better use of your time. You'll find that when you spend the majority of your time in deep concentration, you get more done during a study session. In addition, because you're operating in deep concentration for a longer period of time, you'll gain a better understanding of the material. It stands to reason that if you spend most of your time focused on the course material, you'll learn and remember more of it than if you're constantly distracted.

Improved concentration during lecture classes can help you take better lecture notes. If you're focused on the information your professor is presenting rather than on other people, negative thoughts about the course, or personal plans, you'll take better notes. In addition, you may find that you become more involved in the lecture and gain a better understanding of the material. You'll be able to form connections between the material being presented and the material you already know. This helps you learn and understand what you're hearing.

You may also notice that once you set up a better study environment, you're better able to prepare for quizzes and exams. Working in a quiet, nondistracting study area can have a positive effect on what you study and learn. Setting goals and using active study strategies will not only improve your concentration but also your mastery of the material. After concentrating on your studies for one or two hours, you'll be pleased by what you were able to accomplish. Knowing that you are well prepared increases your self-confidence and leads to higher self-esteem.

SUMMARY

Most college students have problems with concentration (focusing their attention). If you're focusing on the conversations around you or those going on out in the hall, instead of on your professor's lecture, you're concentrating on the wrong thing. If you find that you're putting a lot of time into your studies but not getting much accomplished, you probably have a concentration problem. During an ideal study session, students move from light to moderate to deep concentration—the level where most learning occurs. During a typical study session, however, students move in and out of these stages of concentration because of interruptions or distractions.

The most common indicators of concentration problems are external and internal distractions. It's easy to blame all concentration problems on a noisy room or a cluttered desk, but the real culprits are lack of attention, lack of interest, and lack of motivation. By monitoring your distractions, you can pinpoint why you're having concentration problems and select the appropriate strategies to gain more focus. Avoiding common distractions and using active study strategies can help you increase your concentration. Creating a positive learning environment is critical to good concentration. If you set goals, focus your attention, increase your interest, and improve your motivation, your ability to concentrate will improve.

ACTIVITIES



1. Draw a time line to evaluate your last fifty-minute study session. Plot the interruptions that you experienced and how much time you spent in each of the three levels of concentration. What did you discover?



2. Once you've identified the causes of your concentration problems, you need to think about why you want to improve your concentration. What's your motivation? List five reasons that you believe improving your concentration will benefit you this semester and/or in the future.



3. Review Emily's list of distractions from a one-hour study session, available on the Web site. Label each distraction as external or internal and personal or academic. Then jot down a suggestion for how Emily should have dealt with the distraction. Discuss your responses with the other members of your group. What would you have done if this were your study session? Note: Emily read four pages of her Biology text in one hour during this study session.



4. Choose a section of a text that you haven't already read. After you finish reading, make a list of the distractions you experienced. Repeat the task using another text or at a different time of day. What differences did you notice in your ability to concentrate on the two reading assignments? Share your results with your group. What were the most common problems?



5. Make a list of the problems or difficulties that you experience in at least two of your lecture classes. What differences did you notice in your ability to concentrate in each class? What were the causes of your concentration problems? Share your results with your group. What were the most common problems?



6. Create a chart to monitor the types of concentration problems you experience in each of your classes. List the names of your classes down the left column. Then write the following headings across the top: Focusing at Will, Sustaining Your Focus, and Limiting Your Focus. In each box of your chart, indicate whether you have problems in lecture classes (L), when reading your text assignments (R), or when studying for exams (S).



7. From the Web site, download one copy of Activity 6-3, 6-4, or 6-5 from the Activities Packet. What advice would you give to each of the students? Compare your responses with those of others in your group.



8. Use the Monitor Your Concentration Chart on the Web site. Record up to ten concentration problems you encounter over a one-week period. Include one or more strategies that you used to improve your concentration. What changes did you make to improve your concentration during the week? How well did your strategies work? What motivated you to make those changes?



9. Write three concentration problems that you experienced during the past week on each of three index cards. Put the last four digits of your student number at the top right corner of the back of the card (do not use your name). After the cards are shuffled and distributed to various groups within the class, discuss each of the problems assigned to your group. Discuss possible solutions to the problem and write several of the best on the back of the card. Select one or two of the most common (or most interesting) to describe to the class. At the end of the class period, each student can claim his or her card (by student number) and make use of the suggestions that were offered.



10. Now that you've completed Chapter 6, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW



Terms You Should Know: Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.



Completion: Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

- _____ college freshmen experience concentration problems.
- Some students never get into _____ concentration.
- Use _____ study strategies to improve your concentration when studying for exams.
- Both _____ and _____ distractions affect your ability to concentrate during lectures.
- Having difficulty concentrating at the beginning of a task is referred to as a problem focusing at _____.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

- Which of the following is *not* one of the real causes of poor concentration?
 - Lack of interest
 - Lack of attention

- C. Lack of motivation
 - D. Lack of self-efficacy
7. You can reduce your distractions by
- A. studying in an empty classroom.
 - B. using your desk only for study.
 - C. screening your phone calls.
 - D. doing all of the above.

Short Answer/Essay: On a separate sheet, answer the following questions.

- 8. Describe the characteristics of each of the three stages of the concentration cycle.
- 9. How should students overcome problems with internal and external distractions?
- 10. How will improving your concentration benefit you in college?

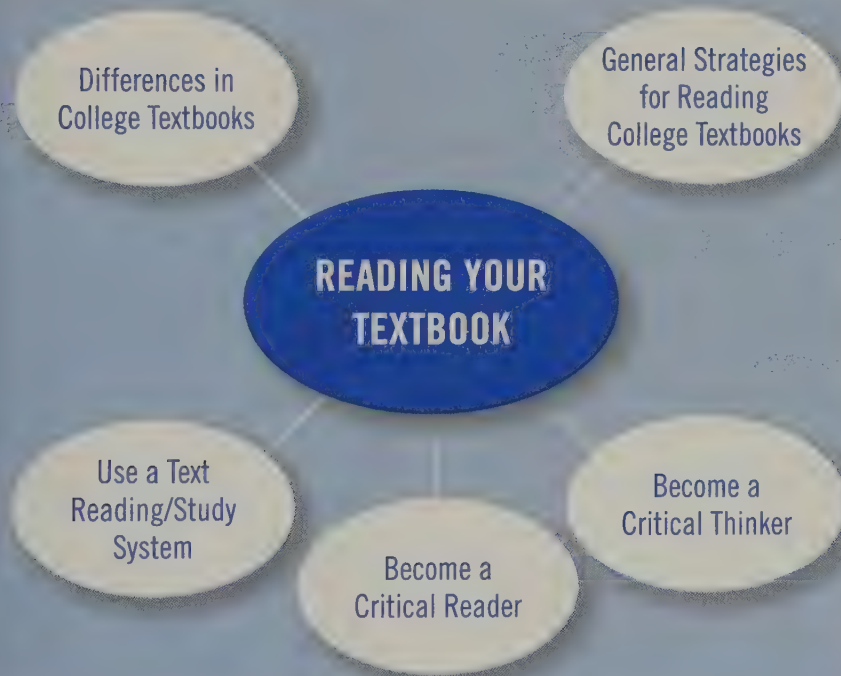


Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Reading Your Textbook

CHAPTER

7



"Although it takes more time than some other methods, the S-RUN-R method helped me with my Sociology reading. I actually finished the reading instead of closing the book after reading only a few paragraphs. Along with understanding and taking notes in my own words, I created a recall column next to my notes. Taking notes helped me pay more attention to what I had read, and it (note taking) also helped me grasp the material better."

Michelle Podraza, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Analysis
Application
Comprehension
Comprehension monitoring
Critical reading

Critical thinking
Evaluation
P2R
Preview
Read actively

Review
SQ3R
S-RUN-R
Synthesis

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you generally believe what you read online and accept it as factual?	_____	_____
2. Do you use a reading/study system when you read text material?	_____	_____
3. Do you preview a chapter before you begin to read it?	_____	_____
4. Do you usually try to read an entire chapter at one time?	_____	_____
5. Do you think about the quality of the evidence as you read your textbooks?	_____	_____
6. Do you tend to read your text chapters again before the exam?	_____	_____
7. Do you generally pause at the end of each paragraph or page to think about what you have read?	_____	_____
8. Do you use different strategies to read more difficult text assignments?	_____	_____
9. Do you often forget what you have read when you complete a reading assignment?	_____	_____
10. Do you tend to form an opinion about something before you've explored all sides of the issue?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 2, 3, 5, 7, and 8, and 1 point for each *no* answer to questions 1, 4, 6, 9, and 10. Total up your points. A low score (0–4) indicates that you need some help in text reading. A score of 5 to 7 indicates that you are using some good strategies but not others. A high score (8–10) indicates that you are already using many good text-reading strategies. What did you learn about yourself by completing this activity?

DIFFERENCES IN COLLEGE TEXTBOOKS

Reading college textbooks is different from the reading you did in high school. College textbooks are more “idea dense” than most high school texts; that is, they contain many more facts and ideas per page. Not only is there much more information to learn, but also you may have much less time in which to read and learn it. You probably spent an entire school year covering only a part of your high school textbook; however, in college you may find that you’re responsible for completing an entire text in only ten to fifteen weeks. In addition, college textbooks are written at a higher reading level than high school texts and contain new, specialized, technical terminology. Unlike your high school textbooks, college texts also contain many more abstract ideas. They don’t just seem harder—they are. This may be one reason many students find that even though they read their textbooks, they don’t understand what they read.

Are you reading about topics that are new to you—things you never knew about before? Your lack of background knowledge on the topic can also have a negative effect on your comprehension. As you learned in Chapter 4, you rely on your long-term memory (your prior knowledge) to make new information meaningful. When you lack that prior knowledge, it’s harder to understand what you’re reading and, therefore, more difficult to learn the new information.

Have you ever noticed that you can’t remember the beginning of the sentence when you get to the end? As you read your assignments this week, count the number of words in some of the long sentences. Did you find many long sentences? If so, that may be one of the reasons you are having trouble understanding and remembering what you read. If the sentences are thirty words or longer, you may find that you have to go back and reread the beginning of the sentence again. Why does that happen? In Chapter 4, you also learned about the limits of short-term memory—you can only hold on to information for fifteen to twenty seconds. When you have long sentences and/or a number of unfamiliar words in those sentences, you might be exceeding the limits of your short-term memory.

You also may have discovered that most of your college textbooks contain longer chapters (many are forty to fifty pages long) and smaller print (that means more words per page). That means it will take you longer to read each page and to read the chapter. Is it taking you two or three hours to read a chapter? If it is, you may get bored, tired, or simply can’t remember what you’ve read. You may also have noticed that the writing style tends to be a bit dry and the topics less interesting than some of your other reading materials. All of these factors (see Figure 7.1) make it harder for you to concentrate on, understand, and be motivated to read your assignments.

FIGURE 7.1

Factors That Make
College Texts More
Difficult to Read

- Many new technical terms
- More abstract concepts
- More “idea dense”
- More words per page
- Longer sentences
- Longer chapters
- Higher reading level
- Lower interest level
- Lack of background about the topics

GENERAL STRATEGIES FOR READING COLLEGE TEXTBOOKS

You can use a number of general strategies to improve your ability to read and comprehend your college textbooks. Previewing the chapter, dividing the chapter into smaller portions, and monitoring your comprehension are just a few of the strategies that will help you get the most out of your reading. If you're already using some of these strategies, you know they do help. If some of the strategies are new to you, experiment to see whether they're effective, too. The tips in the Tip Block will help you get off to the right start. Remember, you need a much more strategic approach to read and understand your college textbooks.

Preview Your Textbooks

As soon as you buy your textbooks, take a good look at them. You can learn a lot about your courses and textbooks just by thumbing through the books. A quick look at the table of contents will give you a good idea about the topics you'll be discussing in the course. By looking at the headings in each chapter, you'll get a general idea of how each chapter is organized. By reading the preface, you may learn a little about how the author designed the text and how some topics relate to others. The end of your text may also include important study aids. Check to see whether there's an index, glossary, or answer key. Check for additional resources on the companion Web site or CD-ROM (if they are available with your text).

You also should look through one of the chapters to see how the information is presented. Does the author provide an outline or introduction for each chapter?



Tips for Reading College Textbooks

- ❑ **Read textbooks differently.** You can't read a college textbook the same way you read a novel or magazine article. You won't remember everything you read or even understand all of it after one quick reading. You may need to slow down or reread some portions of the chapter.
- ❑ **Make word cards.** Before you begin reading the chapter, make a set of word cards for the new technical terms you find in the chapter. Creating word cards can help you gain familiarity with the new terminology and with some of the concepts about which you'll be reading. That will help you better understand the chapter when you read it.
- ❑ **Preview the chapter before you read.** Read the title, introduction, and headings; glance at charts and pictures; and read the summary. A two- to five-minute preview reduces the total time you spend reading and increases your comprehension.
- ❑ **Build on prior knowledge.** Relate what you're reading to what you already know. By connecting the information in your textbook chapter to your own experiences and prior knowledge, you can improve your comprehension and memory of the material.
- ❑ **Divide the chapter into readable chunks.** A forty-page chapter is probably best read in four chunks of ten pages each. A twenty-page chapter may be read in two chunks of ten or in three chunks of seven, seven, and six pages. Dividing the chapter into smaller segments increases your comprehension and actually decreases the time you spend reading the chapter.
- ❑ **Use a reading/study system.** Use a reading/study system such as P2R, SQ3R, or S-RUN-R, or develop your own system. Be sure you use one or more active strategies before you read the chapter, as you read the chapter, and after you read the chapter.
- ❑ **Mark the text or take notes as you read.** Highlight, underline, or take notes at the end of each section. Wait until you finish reading the paragraph or a headed section before you begin to mark your text.
- ❑ **Monitor your comprehension.** Stop to check your understanding of the material at regular intervals. Look for connections between topics and how the new information relates to your prior knowledge. Pause at the end of each paragraph or page and ask yourself if you understood what you just read.
- ❑ **Review what you read.** After you complete your reading assignment, take time to review what you just read. Think about the main points that the author made in the chapter. Write recall questions or summarize the key information in the margin of the text.
- ❑ **Read or review as you commute.** Just thinking about what you read as you drive to class will help you improve your comprehension of the material. If you commute by bus or train, use that time to read one or two chunks of your text chapter.
- ❑ **Prompt your memory.** Use the headings in your textbook or in your notes, or use the questions in the margin, to prompt your memory. Recite the information out loud or write it down.

Look to see whether there are any study aids in the text; they're designed to help you comprehend the material. Check to see whether the chapter includes lists of key terms that you should master, questions or problems, or even a sample test to check your comprehension of key concepts. These study aids will help you monitor your comprehension and memory of the text material.

Read Ten Pages at a Time

Which would you rather read, a fifty-page chapter or a ten-page chapter? Most students say they'd much rather read a ten-page chapter. Did you? Take a look at the chapters in some of your textbooks. Fifty-page chapters are standard for many texts. Reading fifty pages at one time may not seem like a difficult task, but it is. One page of a college textbook may contain as many words as three pages of a novel. Have you ever sat and read 150 pages of a novel at one time? Not only are there more words on the page, but the text is more difficult to read and understand.

Some students find that it takes them much longer to read the second half of the chapter than the first because, as they get tired or lose interest, their reading speed starts to slow. Reading a chapter in chunks of ten pages or even five pages at one time may help you maintain a faster reading speed and still have excellent comprehension. You also may find that when you're working on only ten pages of text at one time, you'll feel more motivated to highlight or take notes as you read.

Monitor Your Comprehension

As you read your textbook, you should be aware not only of what you're reading but also of whether you understand what you're reading. Too many students read their textbooks in a mechanical way. Their eyes see the words, but their minds are a million miles away. Do you? Comprehension monitoring will help you keep your mind on what you're reading. *Comprehension monitoring* refers to your own evaluation of whether or not you comprehend (understand) what you read. You can monitor your comprehension of the text material by stopping every so often (at the end of a paragraph, section, or page) and asking yourself what you just read and whether you understood it.

When you realize that you don't understand what you've just read—when comprehension breaks down—you may find that you can correct the problem. The easiest thing to do is to read the sentence or the paragraph again. Reading ahead or rereading previous paragraphs can provide more clarification. Looking up the definitions of unfamiliar vocabulary words can also help you gain a better understanding of the material. When you aren't able to correct a comprehension problem on your own, put a Post-it® note on the page so you can ask about it later. The reading/study systems discussed later in the chapter will also help you monitor your comprehension and get more out of your reading.

BECOME A CRITICAL THINKER

Becoming a critical thinker is an important part of learning to read and understand your college textbooks. Critical thinking and critical reading are really two parts of the same process. You can't read college text material without thinking critically about it. According to Dan Kurland, who runs a website on critical reading, critical reading is a technique for discovering information and ideas within a text and critical thinking is a technique for evaluating that information in order to decide what to accept and believe.¹ In this section, you'll learn more about how to think critically as you read your text material, and in the next section, you'll learn more about some specific critical reading skills and strategies.

What Is Critical Thinking?

There are many definitions in the literature for what critical thinking is and what it isn't. First, let's start with what it isn't. Critical thinking is not something negative; it doesn't involve finding the faults in a person, an idea, or a chapter. Rather, critical thinking is a positive way of looking at things. *Critical thinking* involves identifying, thinking about, reflecting on, and evaluating information in order to solve a problem or make a decision. Three of the more useful definitions of critical thinking, developed by some of the top people in the field, are listed below.

- "Critical thinking is thinking about your thinking while you're thinking in order to make your thinking better."²

Richard Paul

- "Critical thinking is reasonable, reflective thinking focused on deciding what to believe or do."³

Robert Ennis

- "Critical thinking is a cognitive process we use to carefully examine our thinking and the thinking of others in order to clarify and improve our understanding."⁴

John Chaffee

¹Retrieved from Dan Kurland's www.criticalreading.com at www.criticalreading.com/critical_reading_thinking.html on 12/5/2008.

²Retrieved from The Critical Thinking Community at www.criticalthinking.org on 2/16/2010.

³Retrieved from Robert Ennis at www.criticalthinking.net on 10/2/2009.

⁴John Chaffee, *The Thinker's Guide to College Success*, 2nd ed. (Boston: Houghton Mifflin, 1999), p. 34.

Although each of these definitions is clearly distinct, there are some similarities in them. Richard Paul stresses the importance of metacognition in his definition. According to Paul, you need to be aware of what you are thinking so you can learn to “think” better. Basically, he is saying you need to assess your thinking and test it out (see if your thinking led to desirable outcomes) so you can make better decisions in the future. Robert Ennis’ definition is slightly different. He also indicates that reflecting on your thinking (thinking back on your thinking) is an important part of the process but stresses the fact that it is done in order to decide what to believe or what to do. Ennis is saying you need to make a reasonable decision based on careful consideration of the options in order to decide whether you should believe something or choose not to believe it and whether to do something or choose not to do it. John Chaffee’s definition incorporates some aspects of both of the previous two. Chaffee stresses the careful examination of your thinking but also of the thinking of others, implying that you must also question what others say or write. Rather than focusing on what to believe and what to do, as in Paul’s definition, Chaffee believes that critical thinking should be done in order to clarify (make clear or refine) and improve your understanding.

According to Gerald Nosich, who teaches courses in critical thinking, there are three parts of critical thinking:

- Critical thinking involves asking questions.
- Critical thinking involves trying to answer those questions by reasoning them out.
- Critical thinking involves believing the results of your reasoning [and taking action based on that belief].⁵

Each step is central to the definitions that were previously discussed. In many ways, critical thinking is similar to conducting a science experiment. To think critically about anything, you must begin by questioning what you know (and what you think you know) about the topic. Next, you need to pose questions about what you are learning as you gather information by reading, hearing, or experiencing things. But you can’t just accept all of the information you come across. You have to evaluate that information and its sources. Finally, you need to believe the results of your reasoning—you need to learn to trust your ability to make the right choices and decisions and be willing to act upon them.

Remember, though, that critical thinking doesn’t always result in the right choices. You might not have all of the information you need to make a reasonable decision. In the process of gathering information, you could overlook some important information. If you have strong feelings about the topic, you might not consider some points of view that differ from your own. You might also be fooled into thinking some of the information you find is valid, accurate, and objective when it is actually invalid, inaccurate, and biased.

⁵Gerald Nosich, *Learning to Think Things Through*, 3rd ed. (Upper Saddle River, NJ: Pearson Prentice Hall, 2009), pp. 5–6.

FIGURE 7.2

Characteristics of
Critical Thinkers

Ask questions	Are interested in solving problems
Gather information	Are inquisitive
Examine beliefs	Value others' input
Reject information that is incorrect or irrelevant	Act on their decisions
Are open minded	Are skeptical
Consider other views	Solve problems in a systematic way
Consider all possible alternatives	Use standards to assess their thinking
Recognize that they don't know everything	Think before acting
Use metacognitive strategies	Examine evidence
Weigh evidence	Separate fact from opinion
Evaluate the credibility of sources	Suspend judgment until all information is gathered
Are fair minded	Look for evidence to support their assumptions
Are reflective	Identify reliable sources of information
Examine evidence carefully	Identify biases or assumptions
Make reasonable decisions	Explore all possible solutions
Are flexible in their thinking	

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Characteristics of Critical Thinkers

To be a critical thinker, you must ask questions, gather information, examine evidence, evaluate that evidence, weigh all of the options, and make decisions in a reasonable, reflective way. There are many other characteristics of critical thinkers (see Figure 7.2). As you read through the list, put a check mark next to those characteristics you share. Put a star next to any characteristics you need to develop in order to become a critical thinker.

Why Is Critical Thinking Important?

Learning to think critically is an important part of your college training. Learning how to determine what to believe (and even whom to believe), developing the ability to weigh all possible alternatives when solving problems, and making carefully thought-out decisions will affect all parts of your life. Critical thinking is also important when you're making decisions about your personal life. Whether you live at home or you live on campus, you have to solve problems and make important decisions every day. In many ways, all of the decisions you make in college will affect whether you achieve your academic and personal goals. The decisions related to your academic and personal goals will ultimately impact your career goals. What decisions did you make today that will have an impact on your future? Jot a few in the margin. Did you use critical thinking skills to make any of those decisions?

You need to use critical thinking skills in all of your academic courses. Every decision you make in college actually requires you to think about the other possible decisions you could have made. Deciding which courses to take each term

involves many smaller decisions: checking to be sure the courses match your requirements, evaluating professors, considering your personal time clock when scheduling classes, and calculating how many credits you should take to maintain your financial aid but still be able to keep up with the work load. Critical thinking may help you figure out why you are motivated in some classes but not in others, why you work hard on some assignments but not on others, and why you earn high grades on some tests but not on others. You use critical thinking skills when you take lecture notes, read your textbooks, write papers, do experiments, solve math and science problems, figure out the correct answer on an objective exam, write an essay answer, and even decide when to do each of your assignments.

Decision Making and Problem Solving

During your college career you will make many decisions. Each time you choose to read a textbook chapter or study for an exam, you make a decision to complete an academic task instead of socializing, sleeping, or putting in a few extra hours at work. However, even that decision involves making more decisions. You need to decide what to study, what strategies to use, where to study, and how long to work on each task. Although some decisions can be made without a lot of reflection, other decisions may require more thought and planning. Deciding what grades you can achieve in each of your classes, whether to change your major, what to do if you're failing a class, or which courses to schedule for the next semester require serious consideration.

When some or all of the choices are unknown, you may need to use a problem-solving process. The five-step approach to problem solving listed below will help you make a more informed decision or find the correct (or best) solution to your problem.

1. **Define the problem.** Identify the problem or the choice you have to make. If possible, break the problem down into parts. Think about how you would like to change things. Write down what you want to do.
2. **Consider the alternatives.** Think about all of the possible choices you could make or all of the possible solutions to the problem. Gather all relevant information on each alternative and consider any obstacles that could prevent you from reaching your goal (the solution). Finally, consider all of the possible outcomes that could occur for each alternative.
3. **Make a plan.** List each alternative that appears to be a reasonable solution to the problem. Decide which alternative you want to try first, second, third, or fourth. Be careful not to choose the most familiar or the easiest alternative on your list because these often don't lead to the best solutions to the problem. You may need to try several alternatives before you find the best solution to the problem.

4. **Take action.** Choose the best option from your plan and put it into action. Taking action itself requires you to make a decision. After developing a plan, some students choose not to act on it. They may be concerned about the outcome or afraid the plan won't work. Deciding not to act is an alternative that must also be carefully thought out.
5. **Evaluate the results.** If you aren't satisfied with the outcome, try one of the other options on your list. Think about what went wrong. Did you consider all possible alternatives? Did you gather all relevant information? Did you just use the easiest or most obvious solution to the problem? Did you take the time to implement your plan in a step-by-step manner? Finally, did you have a positive attitude—did you believe you could solve the problem?

BECOME A CRITICAL READER

What was the single most important thing that you learned in Chapter 6? To answer that question you need to determine the author's purpose for writing the chapter, identify the main and supporting points in the chapter, consider your purpose for reading the chapter, and evaluate the information that was presented. To choose the single most important point the author is making, you need to understand and think critically about each of the points in the chapter. After all, you must judge the value of each statement based on its own merits, your prior knowledge, and your purpose for reading.

What Is Critical Reading?

Actually, it's difficult to define critical reading (perhaps because it's difficult to accurately describe what really happens when we read). However, most reading researchers agree that critical reading involves thinking critically as we read and after we read. In the last section on critical thinking you learned that one reason for using critical thinking is to decide what to accept and believe. This may, in fact, be the major purpose of critical reading. As you read text material, you need to identify the important information and think critically about it in order to make those decisions. To accomplish that purpose, you need to use critical reading skills. *Critical reading* involves questioning, analyzing, and evaluating what you read. You use critical reading skills all the time. If you compare the labels of competing products when you go to the grocery store, you're using critical reading skills. If you read the course description guide before choosing your class schedule, you're using critical reading skills. When you skim several journal articles before choosing the one or two to use for a term paper or speech, you are using critical reading skills. In each case, you're thinking critically about the information as you read it and after you read it.

FIGURE 7.3

Critical Reading Skills

Comprehension:	Understanding what you read
Application:	Connecting what you've read to your own prior knowledge so that you can use it in a new or different way
Analysis:	Breaking the information into its component parts—identifying main points and their supporting details
Synthesis:	Pulling information together from individual statements made in the paragraphs or headed sections into more general ideas or concepts
Evaluation:	Judging the value of the information—determining whether it is accurate and presented in an objective way

Understanding Critical Reading Skills

To think critically about what you read, you must be able to comprehend, analyze, synthesize, apply, and evaluate the material (see Figure 7.3). It's a process that requires you to be actively involved as you read each of your text assignments. You need to question as you read, identify relevant information, monitor your comprehension, make connections and comparisons to other material or your own prior knowledge, and finally evaluate what you've read. To do all of these things, you must become an active participant in the reading process.

Comprehension

Because many college texts are so difficult, students don't always understand what they read. *Comprehension*—understanding what you read—is the first step in critical reading. You need to understand what the individual words mean, and how each group of words works together to create meaning within a sentence, paragraph, and headed section. The use of new, specialized, technical terminology is one of the most common causes of comprehension problems. You may be dealing with topics you've never before encountered. You may not recognize words or know how to pronounce them. Some words take on new or specialized meanings because of the way they're used in particular subject areas. Without understanding the words in the text, you can't understand the ideas and concepts that are presented. For this reason, it's important to look up words that you don't understand and gain some familiarity with the new terminology within the text.

Application

Application involves connecting what you read to your own prior knowledge so you can use it in a new or different way. Many reading researchers agree that you can't think critically about written material if you don't have some prior knowledge or experiences with which to compare it. Many college texts are difficult because they contain abstract theories and concepts that you may not be familiar with. Others

include topics that you may never have even heard of before. You can gain a better understanding of your text material if you apply what you're reading to your own prior knowledge of the material or to your own life experiences.

Analysis

To be a critical reader, you also must learn to analyze the information presented in the text. Learning to break information into its component parts—*analysis*—will help you look more critically at the points made within your reading assignment. You need to identify the main points and their supporting details to better understand the material. To understand the main points within the headed section, you have to consider how each of the reasons, facts, details, or examples supports the topic or main point being discussed. By identifying each component within the paragraph, you also can better evaluate the quality of the arguments the author is making.

Synthesis

Synthesis—pulling information together from individual statements made in the paragraph (or headed section) into more general ideas or concepts—is critical to understanding what you read. You need to think about how each supporting point adds to the meaning of the main points in each paragraph, and how the main points in each paragraph connect to form the key ideas presented in the text. By combining the smaller components within the text, you can gain a better understanding of the information or reach conclusions that aren't directly stated. This may involve adding to the knowledge you already have about the topic, modifying what you previously thought about the topic, or learning new information about the topic.

Evaluation

Critical reading also involves *evaluation*—judging the value of the information in the text. You need to think critically about what you read because not all material that you will read is accurate or objective. Textbooks are, for the most part, reliable sources of information, written and published by reputable authors and publishers. However, you'll also be expected to read many other types of material: journal articles, research studies, critiques, essays, letters, and other original documents. When you're using the Internet to locate information, you need to be even more cautious about your acceptance of everything you read as factual and accurate. Anyone can put anything on the Internet; few, if any, regulatory agencies monitor the accuracy or integrity of such information.

Strategies for Improving Critical Reading Skills

You can use many different strategies to improve your critical reading skills. In the section that follows, you'll find some common ones that may help you read your

textbooks more effectively. As you read each list of strategies, put a check mark next to the ones that you tend to use on a regular basis. Then select several others to try out as you complete your reading assignments for the remainder of the semester.

Comprehension Strategies

- Preview the chapter before reading it to build background.
- Create a set of word cards before you read (see Chapter 10) to become familiar with the new technical terminology.
- Look up unfamiliar words in the dictionary or in an online dictionary and write a synonym above the word.
- Reread a sentence or two if you don't understand the material.
- Read to the end of the paragraph to gain a better understanding of the material before highlighting.
- Highlight or take notes on the material.
- Utilize study aids that have been built into the text. For example, if the author has included definitions in the margin, refer to them as you read the term in the text. Also, complete any exercises or reviews built into the material to reinforce the key information.
- Refer to photos, charts, graphs, examples, and any other figures as they are mentioned in the text to increase your understanding of the material.
- Stop at the end of each paragraph or headed section and think about what you just read. Try to recite or mumble the main points that were made.

Application Strategies

- Think about how the material you are reading is related to what you already know.
- Look carefully at any examples that are given and think about how they demonstrate the points being made.
- Make up your own examples for the material, if possible.
- Apply the information that you read to questions, activities, or exercises that are included in the chapter.

Analysis Strategies

- Pay attention to the headings and subheadings in the text, because they contain the topics that will be discussed.
- As you read, identify the main points that the author is making and highlight them or write them in the margin (or on separate notebook paper).
- Develop specific questions in the margin to focus on the key points that you will need to remember for the exam.

- After you identify each main point, look for any supporting details that have been used by the author. Look for facts, reasons, details, or examples that the author has used to “prove” the point he or she has made. Highlight or note them under each main point.
- Look at the conclusion (concluding sentence at the end of a paragraph or concluding paragraph) and compare the points the author makes to the earlier points made.

Synthesis Strategies

- Go back to the individual points that you highlighted and take notes. Organize the information so that the related details are under the correct heading or subheading in your notes.
- Write general questions in the margin that will help you pull together the details that support the main points that were made.
- Summarize the information that was presented. Either talk about the information, putting it in your own words as much as possible, or write a summary of the information.
- Compare the information that you read in one section of the text with information that you read in another. Look for both similarities and differences and pull together the information as you make notes on your reading.
- Create concept maps or charts (see Chapter 9) to show how the information is connected.
- Create study sheets (see Chapter 10) to integrate the information from the text and the lecture on each individual topic.

Evaluation Strategies

- Ask yourself what the author’s purpose was in writing the material. Was it to present you with a factual description of the topic; to persuade you to agree with one point of view; or to convince you to buy a product, vote for one candidate, or take a particular action?
- Consider the author’s credibility. Does the author have expertise on the subject? Does the author have experience with the subject? If the author is not a credible source, can the information be reliable?
- Ask yourself if the facts, reasons, details, and examples support the author’s conclusions.
- Think about whether there is enough evidence given to prove the point being made. Does the author provide different viewpoints on the topic?
- Consider whether the evidence is factual or only the opinion of the author.
- Watch for biased language or bias in presenting only the evidence that supports one side of the issue.

USE A TEXT READING/STUDY SYSTEM

Dozens of reading/study systems have been developed to help students better understand what they read. Because they're all very similar, we'll discuss only three of them in this chapter: P2R, SQ3R, and S-RUN-R. After you learn how to use each system, try it out. Then choose the one that works best for you. You may find that one reading/study system works well with one of your texts, but a different one is more helpful for another text.



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The P2R Reading/Study System

The *P2R* Reading/Study System is designed for textbooks that are easy to average in difficulty. Use P2R on the entire chapter or on ten-page chunks. First, preview the entire chapter. Next, read actively by highlighting or taking notes as you read. Finally, review using an active strategy such as reciting the important points, answering review questions, or writing and answering questions in the margin. If you're still just sitting back and reading over your text chapters, give P2R a try. Many students have found that it really increases their comprehension of the text material without adding much time to their reading.

The Three Steps in P2R

Preview. Always preview a chapter before you read it. A *preview* is a brief overview of a chapter done before reading. Previewing takes very little time and effort—most students can do it in two to five minutes. First, read the title of the chapter. Then read the introduction, outline, or structured overview (a visual display of key information) at the beginning of the chapter. As you turn the pages of the chapter, read the headings in bold print and glance at any pictures, tables, or graphs. Don't stop to read any of the text along the way. At the end of the chapter, read the summary or the last two paragraphs. If you're reading a journal article, essay, or other short selection, you may find it helpful to read the first sentence of each paragraph.

Read Actively. The second step of the P2R Reading/Study System is to *read actively*—to do something active while you read. One way you can become an active reader is by marking your text. After you have read a paragraph or headed section of text, pause to think about what you’ve read. Go back and use a highlighter to mark any material that you think you’ll want to review again before the exam. By highlighting the text, you’re actively involved in thinking about the material, and you’re condensing what you’ll need to review at a later time. Chapter 8 includes much more information on how to highlight.

Another way to read actively is to take notes. Taking notes on a text is a lot like taking notes on lectures. Write the heading in your notebook and then jot down the important details. More information on how to take text notes is given in Chapter 9. You could also write recall questions or summary statements in the margin of the text.

Review. After you complete a ten-page chunk of reading and again at the end of the chapter, you need to *review*—do something to reinforce the important information. There are a number of ways that you can review the text material. Four of the most common ones are listed below. You don’t need to use all of these strategies, but try them as you complete your reading assignments and find the ones that work best for you.

- If you highlighted or took notes to read actively, write questions in the margin of your text or notes at the end of each ten-page chunk of the chapter. Then when you finish reading the entire chapter, recite the answers to your questions.
- Use the headings to recite the key information. Cover the details with your hand and recite using the headings as cues.
- Do the exercises or do the questions at the end of the chapter.
- Take the end-of-chapter tests or online tests to monitor your understanding and your learning.

Advantages of the P2R Reading/Study System

The P2R Reading/Study System is a very efficient system for dealing with text material. By previewing, reading actively, and reviewing your text, you should be able to significantly increase your comprehension of the material. You may also find that it builds background, reduces the time it takes to read the chapter, increases interest, improves comprehension, and prepares your text for later review.

Builds Background. Previewing the chapter provides you with some background about topics in the chapter that may be new to you. You may also gain some understanding of how the information is organized and presented. Both kinds of information can help you understand the text material better. Research studies have shown that previewing before reading can increase your comprehension of the textbook chapter by 10 to 20 percent.

Reduces Reading Time. Even though previewing appears to add a few additional minutes to your reading time, it probably will reduce the total time that it takes you to read the chapter. You can test this yourself. Select a chapter in one of your textbooks and time yourself as you read it. Then select another chapter of similar length. This time, preview the chapter and then read it. Which chapter took more total reading time?

Increases Interest. Many students also report that they get interested in a chapter because of their preview of it. This is especially true when students are reading texts that they find boring. As you preview, you may notice a particular topic in the middle or at the end of the chapter that seems quite interesting. Getting to that “good stuff” can motivate you to read the less interesting material. You can also use an active strategy (highlighting, note taking, or writing questions in the margin) to create interest when the material itself is not interesting to you.

Improves Comprehension. Reviewing after you read each ten-page chunk and again at the end of the chapter helps you reinforce the important information. As you review, you can check to see whether you understand the text material and whether you can recall it for a quiz or class discussion. Reviewing provides you with an opportunity to move the information into long-term memory and test your learning. Even a five-minute review can increase your comprehension of the material.

Prepares Your Text for Later Review. Marking your text or taking notes will prepare your text for later review. The main reason for marking your text is to identify the important information and condense the text material so that you never have to read the entire chapter again. It’s not unusual to have three hundred pages of text to review for just one exam. Think about how long it would take to reread all of it. And, remember, rereading the text doesn’t really help you learn the information for the exam. Highlighting or note taking allows you to identify and mark the material that you will need to study further and improves your ability to concentrate, which increases your comprehension.

The SQ3R Reading/Study System

SQ3R, developed by Francis Robinson in 1941, is one of the most widely taught reading/study systems.⁶ Many students learn how to use SQ3R in junior high school, in senior high school, or even in college. Have you ever been taught how to use SQ3R?

⁶The discussion of the five steps in the SQ3R process that follows was adapted from F. Robinson, *Effective Study*, 4th ed. (New York: Harper & Row, 1970), pp. 32–36.

Did you ever use it? *SQ3R* is an acronym for Survey, Question, Read, Recite, and Review. By using these five steps when you read your college textbooks, you can overcome many of the difficulties you may encounter when dealing with hard-to-read and hard-to-understand material.

Some steps in the SQ3R system are similar to those in P2R. The main difference, however, is that the steps are performed on each headed section rather than on ten-page chunks or on whole chapters. As you will see, this difference makes SQ3R a more time-consuming system; therefore, you may want to save SQ3R for your more difficult textbooks. Although it takes a lot of time, many students find that it is very effective.

The Five Steps in SQ3R

Survey. Survey the chapter before you read it. Go through the chapter quickly, glance at the headings, and then read the final paragraph of the chapter in order to get a general idea of what the chapter is about and the main points that the author is making.

Question. Before you begin to read the first headed section in your chapter, turn the heading into a question. How would you change the heading “Sensory Adaptation” into a question? Actually, you could generate a number of different questions. One of the most typical (though not necessarily the best) is “What is sensory adaptation?” Formulating questions forces you to think about what you’re about to read; it makes you try to predict what the author’s main point will be.

Read. Read the text material under the heading in order to find the answer to the question that you generated. Turning the heading into a question helps you focus your reading. Reading the section to locate the answer to your question helps you get actively involved in the text material.

Recite. At the end of the first headed section, recite the answer to the question that you formulated. Recite the answer in your own words, without looking at the text. If you find that you’re unable to recall part or all of the answer, glance over the section again. Then jot down a brief answer in outline form on a piece of paper. Don’t make any notes until you’ve read the entire section.

Review. After you’ve finished reading the entire chapter, look over the notes that you made to again familiarize yourself with the important information in the chapter. Check your memory by covering your notes and reciting the main points out loud. Then cover each main point in your notes and try to recite the subordinate points that you noted until you have reviewed each headed section. This review should take only about five minutes.

Advantages of the SQ3R Reading/Study System

The SQ3R Reading/Study System provides students with a great deal of repetition, breaks the task of reading into smaller segments, and has a built-in comprehension-monitoring system.

Great Deal of Repetition. One of the greatest advantages of using the SQ3R Reading/Study System is that it allows for a great deal of repetition of the important information in the chapter. As you learned in Chapter 4, repetition is one of the key ingredients in learning. By going through all of the steps in SQ3R, you're repeating the key information in the chapter at least three or four times. As you go through the five steps, you're surveying the chapter to gain information about the topics presented, formulating questions about the material, reading to find the answers, reciting the important information aloud, and, finally, reviewing again what you've read.

Focus on Smaller Segments of Material. Another advantage of SQ3R is its focus on smaller units of material. You work on reading and reviewing the material in each headed section before moving on to the next. By focusing on each headed section and going through all of the steps, you're breaking the task of reading an entire textbook chapter down into smaller units. If you have difficulty reading even ten pages of text at one time, you may find SQ3R to be very helpful. Most students who use the five steps in the SQ3R Reading/Study System do report a greater understanding of the text material than they had before.

Built-in Comprehension-Monitoring System. Another advantage of SQ3R is that it has a built-in comprehension-monitoring system. When you stop to recite the answer to the question that you formulated, you're testing your understanding of the material. This step in the SQ3R process keeps you on track as you read. Knowing that you must be accountable for what you have read can prevent the passive reading that so often characterizes text reading.

Adapting SQ3R

There are a number of ways that you can adapt or modify SQ3R to make it more effective for college-level texts. First of all, use SQ3R only for reading your most difficult textbooks. Try using SQ3R with an easy text and with a difficult-to-understand text. You'll probably discover that you really don't need to use SQ3R with your easy textbook, but you may find it will help improve your comprehension when you read your more difficult textbooks.

Formulate Broad Questions. Because college texts contain so much information in each headed section, you need to modify the way you generate questions for each heading. If you simply ask "What is the . . ." type of questions, you may be ignoring a great deal of important information. For example, the question, "What is sensory

adaptation?” would have led only to the review of the definition: “Sensory adaptation is a gradual decline in sensitivity to prolonged stimulation.” Other important points would have been overlooked. You may find it more useful to generate broad questions such as “What do I need to know about sensory adaptation?” or “What’s important about sensory adaptation?” Broad questions will prompt you to read for all of the important information within the headed section.

Highlight the Answers to Your Questions. Instead of simply reading to find the answer to your question, highlight each point. That way you’ll have a record of the important information when you’re ready to study for exams. If you prefer taking notes, write the questions in the margin of your notebook across from the “answers” in your notes.

Recite Using the Headings as Cues. When you finish reading each section, stop and cover the material you highlighted or noted and recite the material using the headings as cues.

Review at the End of the Chapter. Go back at the end of the chapter and write questions about the details in the headed sections, recite the answers to your questions, answer end-of-chapter questions, or take online tests. Instead of simply repeating the same answers that you gave before, try to make connections within the material or focus on specific points that you’ll need to know for an exam. By modifying the way you use SQ3R, you can make it an effective and an efficient study tool, especially for reading very difficult textbooks.

The S-RUN-R Reading/Study System

The SQ3R Reading/Study System has been adapted by many reading and learning strategies educators. Because of its simplicity, one variation that may be very useful for college students is the S-RUN (Survey, Read, Underline, Notetaking) Reading/Study System designed by Nancy Bailey.⁷ Bailey’s students were reluctant to use SQ3R because it seemed like too much work; however, they used S-RUN with great success.

To better meet the needs of college students, the *S-RUN-R* Reading/Study System combines Bailey’s system with a review step. Because you focus on the text one headed section at a time, S-RUN-R should be used with more difficult text material.

The Five Steps in S-RUN-R

Survey. The first step in the S-RUN-R Reading/Study System is to survey the entire chapter. Read the title, introduction, headings, subheadings, and summary (and

⁷Nancy Bailey, “S-RUN: Beyond SQ3R,” *Journal of Reading*, 32 (1988): 170.

glance at pictures, charts, and graphs). Like P2R and SQ3R, this survey provides a quick overview of the chapter, building background and interest. You should spend only about two (for short chapters) to five minutes (for longer chapters) completing the survey. If it's taking you longer, you're probably reading too much or stopping too long to look at the illustrations.

Read. Instead of formulating a question before reading a headed section, write the heading on a piece of notebook paper next to the left margin. Just copying the heading helps you pay more attention to it and may help focus your reading. Then read the section as you would any other text material, thinking critically about the material.

Underline. After you finish reading each paragraph, think about what was important in the paragraph and underline or highlight the important information. As you'll see in Chapter 8, highlighting is more effective than underlining, so feel free to make the change. In the next chapter, you'll learn more about how to choose what to mark. For now, highlight the information that you think you would like to review for an exam.

Notetaking. As soon as you complete all of the highlighting for the first headed section, stop and turn back to your notebook page. Now take notes on information beginning on the line below the heading. Write the notes using meaningful phrases, as you do when taking lecture notes. Don't just copy what you highlighted; try to put the information into your own words. Continue jotting down each heading, reading, underlining (or highlighting), and taking notes for each remaining headed section.

Review. When you've completed the entire chapter, do a review to reinforce the important information. You can recite the key information that you wrote under each heading. Doing the end-of-chapter questions (if there are any) may also help you review the key information in the chapter. Writing questions in the margin of your notes helps you identify and practice the key information in the chapter. You can use the review step to simply get more repetition on the material or to actually check your understanding or memory of it. Writing questions in the margin of your textbook or notebook provides you with repetition of the material, but actually reciting the answers—self-testing—will let you know whether or not you really have learned the material.

Advantages of the S-RUN-R Reading/Study System

S-RUN-R provides you with many of the same benefits as SQ3R. It allows you to read the material in smaller chunks, helps monitor comprehension, and provides you with a great deal of repetition. Unlike SQ3R, S-RUN-R helps you focus on all

of the important information in the section rather than just one answer to one question. S-RUN-R also increases comprehension, condenses the material, and prepares the text for later review.

Identifies All of the Important Information. S-RUN-R is designed to help you identify all of the important information in the headed section rather than one answer to one specific question.

Increases Repetition. You actually get more repetition on the important information with S-RUN-R than any of the other reading/study systems. You gain a little information during your survey, another repetition as you read the paragraph, another chance to read the material as you highlight it (your eyes do follow your marker, don't they?), another repetition when you go back and read your highlighting before taking notes, another repetition as you write the material in your notes, and at least one more as you review the material. If you then create questions and practice answering them, you'll have at least three more. That's up to nine repetitions on the material.

Increases Comprehension. S-RUN-R also dramatically increases comprehension. Working on the material in small chunks gives you an opportunity to understand each concept well before moving on to the next section in the text. You'll also increase your comprehension because you're writing the notes in your own words. Finally, S-RUN-R makes you think about what you are reading. You can't highlight effectively, take notes, write questions, and actively review the material without thinking about what the text material means.

Prepares the Text for Later Review. In the process of highlighting the text and taking notes, you're identifying the important information that you'll have to review for an exam and condensing the material for study. Without highlighting or note taking, you would have to reread the entire chapter again before your exam, which is not a very effective way to use your study time, as you'll learn in Chapter 10. With a good set of notes to review, you can spend your study time learning the material, rather than trying to repeat the process of identifying what you need to learn.

SUMMARY


College textbooks are different from high school textbooks. They're generally written at a higher reading level, are longer, and are more idea dense. They don't just seem harder—they are! Previewing your text, reading the chapter in chunks, and monitoring your comprehension can help you get more out of your reading. Becoming a critical thinker is the key to being able to read and evaluate the information in your textbooks. Learning to be a critical reader will help you gather information so you can evaluate the accuracy and credibility of the information in your reading assignments. To understand what


you're reading, you need to use some type of active strategy before you read, as you read, and after you read. Using a text reading/study system such as P2R, SQ3R, or S-RUN-R can help you increase your comprehension and memory of the material. The strategies suggested in these systems get you more actively involved in your reading. You may find that you need to use only a simple system like P2R when reading your easier textbooks. However, a more complex system like SQ3R or S-RUN-R may be necessary to ensure good comprehension and memory when you're reading your more difficult textbooks. Experiment with all the reading/study systems to find out which one works best for you. If you find that you often get to the end of the page or the end of the chapter and don't understand or remember what you read, you need to get more actively involved in your reading assignments.


ACTIVITIES





1. What differences have you noticed between your high school and college texts? Make a list of the differences you think are interfering with your ability to understand and/or remember what you read. Share your reasons with the other members of your group. How similar were your lists? Do you need to make some changes in the way you read your college textbooks? Why? What's your motivation?
2. From the Web site, download one copy of Activity 7-1 ("Describe Your Textbook") from the Activities Packet. Complete the form as you preview one of your textbooks.
3. As you read your next text assignment, put a check mark in the margin every time you stop to think about what you've read and whether you understood it. After you complete the reading assignment, look at the placement of your check marks. Do they occur within paragraphs, mainly at the end of paragraphs, at the end of the page, or even less frequently? What types of comprehension problems did you experience? What strategies did you use to correct your comprehension problems? Did you notice any improvement in your comprehension of the material?
4. Elana got a 41 percent on her first Biology I exam. She wants to become a physical therapist and has to take a lot of biology courses for her major. She checked her syllabus and discovered that she has three more exams and a comprehensive final in the course. Each exam counts as 20 percent of the course grade. Elana studied for five hours for her first exam and reread her lecture notes three times. She was shocked by her low grade and doesn't understand what she did wrong. She has been thinking about changing her major, changing her career choice, and dropping the class. What other alternatives should she consider before making any of those decisions? After discussing some possible solutions within your group, make a decision about which alternative you think would be the best for Elana. What should she do? What would you do? Why?
5. Use the five steps in the problem-solving process to make a decision about a personal or academic problem you encounter this week. Describe each step of the process you used. How effective was this process in helping you reach a good decision? What changes would you make the next time you have to make a decision?

- 

6. Use the three steps in the P2R Reading/Study System to read the text selection “Cultural Changes and the Environment,” available on the Web site. Use one of the active reading strategies discussed or try a combination of them. Then choose one of the suggested review methods or use one of your own. Compare your marking or notes and review strategies with those of others in your group. Did you find the P2R Reading/Study System helpful? Why or why not?
- 


7. Read the text selection “The Endomembrane System,” available on the Web site, using the SQ3R Reading/Study System. Did you find the SQ3R Reading/Study System helpful? Why or why not?
- 


8. Read the text selection “The Renaissance,” available on the Web site, using the S-RUN-R Reading/Study System. Don’t forget to work on one headed section at a time. Compare your marking and notes with those of other students in your group. Did you find the S-RUN-R Reading/Study System helpful? Why or why not?
- 

9. As you read your text assignments during the next week, experiment with the various reading/study systems that were described in this chapter. Begin each assignment with the easiest system (P2R) and proceed to use more complex systems (S-RUN-R and SQ3R) if you find that you’re not able to understand and remember the material. You’ll probably find that you didn’t use the same reading/study system for all your texts. List each of your texts and describe the reading/study system that you found to be most effective. Discuss your reasons with the other members of your group.
- 

10. Now that you’ve completed Chapter 7, take a few minutes to repeat the “Where Are You Now?” activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you’ve learned in this chapter?

CHAPTER REVIEW

 **Terms You Should Know:** Take the matching test located on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.

 **Completion:** Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. By connecting what you are reading to your _____, you can improve your reading comprehension.
2. You can prevent boredom and increase your comprehension if you read your textbook chapter in _____ -page chunks.
3. You need to turn the _____ into a question in the SQ3R Reading/Study System.
4. Critical thinking involves gathering information, analyzing it, and _____ it.
5. One of the disadvantages of using S-RUN-R is that it is very _____.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. _____ refers to your evaluation of whether or not you understand what you read.
 - A. Critical reading
 - B. Previewing
 - C. Comprehension monitoring
 - D. Analysis
7. Previewing before reading a chapter can increase your comprehension by
 - A. 5 to 10 percent.
 - B. 10 to 20 percent.
 - C. 20 to 30 percent.
 - D. 40 to 50 percent.

Short Answer/Essay: On a separate sheet, answer the following questions.

8. Describe critical reading and critical thinking. How are they related?
9. Why do some students have difficulty reading their textbooks? What should they do differently?
10. Compare and contrast the P2R, SQ3R, and S-RUN-R Reading/Study Systems.



Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Marking Your Textbook

CHAPTER

8

How Should You
Mark Your Text?

Why Should You
Mark Your Text?

What Should
You Mark?

**MARKING
YOUR
TEXTBOOK**

How to Evaluate
Your Text Marking

How to Review
Your Text Marking

"Text marking helps me the most when reading. It keeps me alert and involved in my reading. I have to pick out the main ideas in the text, so I pay attention more. I've also noticed that when I highlight, the reading isn't boring and doesn't take as long. Also, when I'm reviewing, I can spend my time focusing more on the main points instead of rereading the whole chapter."

Suzette Pavlo, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Highlight
Implied main idea
Linking
Main Ideas
Marginal notes
Marking too little

Marking too selectively
Meaningful phrases
Multicolor systems
Multisymbol systems
Overmarking

Stated main idea
T Method
Transition words
Underline
Undermarking

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you highlight or mark your textbook as you read?	_____	_____
2. Do you find that you often get to the end of a page and have no idea what you just read?	_____	_____
3. Do you begin to highlight or underline an important point before you finish the sentence?	_____	_____
4. Do you evaluate your text marking after an exam?	_____	_____
5. Does your marking make sense when you read it again before the exam?	_____	_____
6. Do you rehighlight or re-mark your text when you review for an exam?	_____	_____
7. Do you mark the headings and subheadings in your text?	_____	_____
8. Do you make notes in the margin when you read your text?	_____	_____
9. Do you tend to mark key words rather than phrases or entire sentences?	_____	_____
10. Do you ever reread the unmarked sections of your text before an exam?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 1, 4, 5, 6, 7, and 8, and 1 point for each *no* answer to questions 2, 3, 9, and 10. Total up your points. A low score (0–4) indicates that you need some help in text marking. A score of 5 to 7 indicates that you are using some good strategies but not others. A high score (8–10) indicates that you are already using many good text-marking strategies. What did you learn about yourself by completing this activity?

WHY SHOULD YOU MARK YOUR TEXT?

You probably know some students whose textbooks look as new at the end of a course as they did at the beginning. Have you ever wondered why? One explanation is that those students believe text marking is a waste of time. They've heard that if you mark your text, you're just putting off learning the information. (Sometimes this reasoning provides a convenient excuse not to mark.) Other students don't mark their texts because they want to sell them at the end of the term; they think marked textbooks are less valuable at the resale table. Textbook buyers don't really care if books are marked. But you should! Marking your text can help motivate you to read your textbooks—it gives you a purpose for reading. When done correctly, text marking promotes active reading, condenses the material for later review, increases your comprehension, and serves as a mini comprehension-monitoring system.

Promotes Active Reading

Marking your textbook is a useful activity because it promotes active reading. By now you probably have noticed that you're more actively involved in lecture classes because you're taking notes. By marking your textbooks as you read, you can achieve that same level of concentration and activity. Knowing that you should mark specific sections as you read helps keep you alert. It gives you a purpose for reading. Instead of daydreaming or thinking about something else you have to do, you're forced to concentrate on what you're reading. To mark your text effectively, you have to think about the content of the chapter. You constantly need to make decisions about what's important and what isn't. You may find that your reading takes on a whole new dimension when you mark your text. Getting actively involved in your reading can actually help motivate you to complete your reading assignments.

Condenses the Material

Text marking is also important because it condenses the text material for later review. If you don't mark your textbooks, you may not go back and study the material before an exam. You would have to reread everything before you even could start to study. Because most professors test on both the text and lecture material, you would be at a decided disadvantage at exam time. By marking your text, you can identify and condense the text material you'll need to review. When you know exactly what to study, you'll be more motivated to review your text material before the exam.

Increases Comprehension

Text marking also improves your comprehension of the text material. Identifying and marking the main points and then looking for supporting details help you understand the information. Most students are more motivated to read when they

understand what they're reading. Are you? If you highlight these same points after you have read the paragraph, you get a chance to read the information a second time. Do your eyes follow your marker as you move it across the text? This second reading helps reinforce the key information. By writing notes or questions in the margin you get more repetition on the important information, increasing your comprehension.

Serves as a Comprehension-Monitoring System

Text marking also provides you with feedback on whether you're paying attention as you read a particular section of your text. If everything is marked, you know you really weren't making decisions about the importance of the material. You may not have been able to determine what was important and what wasn't. If nothing is marked, you may not have understood the material well enough to pick out the important information, or you may have been distracted. That feedback can motivate you to focus your attention and think critically about the material, resulting in increased comprehension and memory.

HOW SHOULD YOU MARK YOUR TEXT?

There are many methods for marking a textbook, but the two most common ones are underlining and highlighting. Text marking is a lot like taking lecture notes. You need to get actively involved in the material—read, think, decide, and then mark.

It's important to read an entire paragraph or headed section before you begin to mark your textbook. After you read a section, you need to decide what's important; then you can begin to mark. Waiting until the end of the paragraph will help you increase your concentration and your comprehension of the material. You'll have a better idea of how the information is connected before you begin to mark, which may lead to more effective marking. Many students really don't know how to mark a textbook, so as soon as they read something that looks as though it might be important, they start to mark. If you mark part of a sentence before you even finish reading it, you're actually interfering with your comprehension of the material. Until you get used to marking, try to read at least to the end of the sentence before you begin to mark. Work up to two sentences, then to the end of the paragraph, and finally to the entire headed section.

Highlight

Highlighting the text as you read is probably the most efficient method of text marking. Because it takes so little extra time, more students are willing to do it. As you *highlight* the text, drag your highlighter across the printed words from left to right; in this way you'll be able to reread the important information as you mark it.

This second reading helps improve your comprehension and memory of the material. If you sweep backward across the line, you won't benefit from a second reading. If you decide to use highlighting to mark your textbooks, use a very soft shade of yellow, pink, or blue. Although fluorescent markers do make the text material stand out, they also cause eye strain when you go back to study.

When you identify information that you think is important, you should mark *meaningful phrases* rather than just key words. You can either mark a portion of the sentence, a phrase, or a clause, or you can create your own meaningful phrase by *linking*—connecting key words. Marking only buzzwords really doesn't provide you with enough information from which to study. Mark enough of the sentence so that one month later it will still make sense. Fortunately, it's even easier to mark meaningful phrases in your textbook than it is to write them during a lecture because you have plenty of time to decide what you want to highlight. Look at the example of highlighting in Figure 8.1. Read only the shaded information. Does it make sense? Now go back and read the entire selection. Does the highlighted text effectively show the important information?

FIGURE 8.1

Example of Highlighted Text with Marginal Notes

WHY ARE THE OCEANS IMPORTANT?	
Earth ≈ "Ocean"	As landlubbers, we tend to think of Earth in terms of land, but Earth is largely a water planet. A more accurate name for the planet would be Ocean, because salt-water oceans cover more than 71 percent of its surface.
"O" → survival of all life	The oceans play key roles in the survival of virtually all life on Earth. Because of their size and currents, the oceans mix and dilute many human-produced wastes flowing or dumped into them to less harmful or even harmless levels, as long as they are not overloaded. Oceans also play a major role in regulating Earth's climate by distributing solar heat through ocean currents and by evaporation as part of the global hydrologic cycle. They also participate in other important nutrient cycles.
1. dilute waste	
2. regulate climate	
3. regulate temp	By serving as a gigantic reservoir for carbon dioxide, oceans help regulate the temperature of the troposphere. Oceans provide habitats for about 250,000 species of marine plants and animals, which are food for many organisms, including human beings. They also supply us with iron, sand, gravel, phosphates, magnesium, oil, natural gas, and many other valuable resources.
4. habitat ≈ 250,000 species	
5. source nat. resources	

Underline

Some students use a highlighter, pen, or pencil to *underline* (draw a line under words to be marked) important text material rather than highlighting words. Underlining has several disadvantages. First, it may not increase your comprehension as much as highlighting does because you don't get that second reading when you underline. Most students focus more on the line itself than on the text they are underlining. If you do decide to underline your text, don't use a ruler or straight edge to keep your lines straight—it will really slow you down. Although underlining does promote active reading and condense the material, it isn't as efficient or effective as highlighting your text.

Make Marginal Notes

As you mark, add *marginal notes*, summary statements in the margin of the text. You can list key points, make notes to indicate that you agree or disagree with a point that the author made, put a question mark in the margin to indicate that you don't understand something or would like to ask about it in class, or use a star to indicate that your professor hinted that something would be on the test. Making brief notes in the margin will help increase your level of interaction with the text. However, don't overdo it. If you try to copy all the important information in the margin, you're defeating the purpose of marking. Look again at Figure 8.1. The marginal notes summarize the main points made in the selection.

Avoid Complex Marking Systems

Learning to mark your textbook is not that difficult; however, some students make text marking more complicated than it needs to be. They use complex marking systems such as multicolor systems or multisymbol systems that lead to ineffective and inefficient marking.

Multicolor Systems

Have you ever seen a beautifully marked textbook? If this question made you think of one with three or four different colors of highlighting, you know exactly what I mean. During a workshop several years ago, I asked students to mark a text selection. One student immediately pulled out five different colored markers and began to read and mark the selection. It took this student four times as long as everyone else in the room to mark the selection. At the end of the session, I asked the student about her marking system. She explained that she used one color for main ideas, one color for key words, another for definitions, a fourth shade for examples, and a fifth for supporting details.

Multicolor systems use various colors to indicate different types of text material. Although a multicolor system does force you to think about how you are marking

the text material, it actually can interfere with comprehension. If you spend too much time thinking about whether something is a main idea, a supporting detail, a definition, an example, or a key word, you may not be thinking much about the content of the selection. In some ways, it's like using your highlighter to mark the nouns, pronouns, verbs, adjectives, and adverbs in each sentence. Although you would be marking various components of the material, you wouldn't really be focusing on the meaning but instead on the function of that component. You would be thinking more about the system than the content.

Multisymbol Systems

Multisymbol systems involve using various symbols to indicate different types of text material. The most commonly used symbols are single lines, double lines, wavy lines, boxes, circles, asterisks, and numbers. Other examples also incorporate square brackets, curved brackets, marginal notes, and even summaries at the bottom of the page. Multisymbol systems, like multicolor systems, are very time consuming and often lead to overmarking. The example in Figure 8.2 incorporates some of these methods.

FIGURE 8.2

Example of Overly Complex Marking

WHY ARE THE OCEANS IMPORTANT?

Earth ≈ "Ocean"

"O" → survival of
all life

1. dilute waste
2. regulate climate

3. regulate temp

4. habitat ≈
250,000
species

5. source nat.
resources

As landlubbers, we tend to think of Earth in terms of land, but Earth is largely a water planet. A more accurate name for the planet would be Ocean, because salt-water oceans cover more than 71 percent of its surface.

The oceans play key roles in the survival of virtually all life on Earth. Because of their size and currents, the oceans mix and dilute many human-produced wastes flowing or dumped into them to less harmful or even harmless levels, as long as they are not overloaded. Oceans also play a major role in regulating Earth's climate by ^①distributing solar heat through ocean currents ^②and by evaporation as part of the global hydrologic cycle. They also ^③participate in other important nutrient cycles.

^①By serving as a gigantic reservoir for carbon dioxide, oceans help regulate the temperature of the troposphere. ^②Oceans provide habitats for about 250,000 species of marine plants and animals, which are food for many organisms, including human beings. ^③They also supply us with iron, sand, gravel, phosphates, magnesium, oil, natural gas, and many other valuable resources.

Deciding whether to use a single line or a double line, a box or a circle, or a number or an asterisk can interfere with your comprehension of the material. You spend too much time thinking about the system instead of the content. Did you notice that almost everything is marked in Figure 8.2? Using a simple system will help you focus on the important information, while reading actively and condensing the material for later review.

WHAT SHOULD YOU MARK?

Now that you know how to mark, the next step is figuring out what you should mark. As you read your text assignments, you've probably caught yourself thinking, "I wonder if I should mark this?" Until you become more experienced at marking, it's better to mark a little too much rather than not enough. Remember the rule of thumb from note taking: When in doubt, write it out. The same thing applies to text marking. You also may want to follow a general rule for text marking: *If you think it might be on the test, mark it.* Of course, after the first test, you'll be able to evaluate your marking and make a more accurate decision about what to mark in the next chapter.

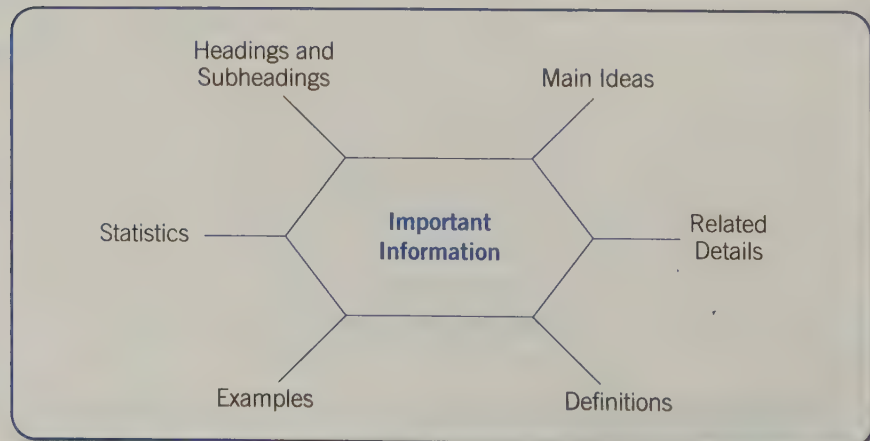
There is no real set of rules for what you should mark. Some students mark only what the author puts in bold or italic print. This information is important and should be marked, but it's not the only important information on the page. Headings, subheadings, main ideas, supporting details, definitions, examples, and statistics are also important (see Figure 8.3).

Mark Headings

As you read your textbook, mark the headings and subheadings. If you're highlighting, highlight them as well. If you're underlining, draw a box around the headings. Typically, when students review their marked textbooks, they read only what they've

FIGURE 8.3

What to Mark



marked. It's incredible, but many students never even look at the headings or sub-headings as they review. The headings contain the most important information in the text. They present the topics to which all of the other marking refers. You wouldn't think of reviewing your lecture notes without looking at the headings, would you?

Mark Main Ideas

Next, you need to mark the main idea statements. *Main ideas* are general statements the author makes about the topic. The main idea statement, or topic sentence, is generally found in the first or second sentence of a paragraph. Unfortunately, many students overlook these statements because they don't contain a specific fact or buzzword. Refer to the text selection in Figure 8.1. Which sentence in each of the paragraphs states the main idea? If you said the first sentence, you were right for paragraphs 1 and 2. You may be having a hard time finding the main idea sentence in paragraph 3. That's because paragraph 3 doesn't contain a *stated main idea*. Sometimes authors don't directly state the main ideas; they only imply them. The *implied* (unstated) *main idea* in paragraph 3 is that the oceans provide other important resources to Earth. You'll find that it doesn't take much practice to learn to pick out the main idea statements in most textbooks. When they are unstated, you can figure them out from the information given in the paragraph. Ask yourself: What point is the author making here? Rereading your text marking should help you identify the stated main idea or figure out the implied main idea.

Focus on Supporting Details

As you read and mark, you also should focus on definitions, examples, enumerations, facts, statistics, and signal words. You can highlight definitions as you read, or you may want to copy them onto index cards so that you can begin to learn them. Put the word on the front and the definition on the back, then practice them out loud, as you would with flash cards. You'll need to know the meaning of technical terms both to comprehend the material and to answer test questions.

Many textbooks include examples that help you understand abstract theories or concepts by bringing them down to a more concrete level. Examples are sometimes rather long and detailed or are set off in small print or in boxes, so students often view them as extraneous (outside or unrelated) information. However, examples can be critical to your understanding of the more abstract information in the text. You don't have to mark every word in the example; instead, mark just enough to see the connection between the example and the information to which it refers.

Lists or enumerations should always be marked. They may span several paragraphs or even several pages, but a main idea sentence will let you know what

you should look for in a list. For example, the main idea sentence may state that there were three main adaptations in vertebrates. As you read, you would look for these adaptations and mark all three.

Facts and statistics also are worth marking because they typically support main ideas and end up on tests. Finally, it's important to mark signal words like *however*, *on the other hand*, and *but*. These *transition words* indicate that the author has shifted direction from positive to negative points or vice versa. Leaving them out can result in misinterpretations during later review.

Now that you have a good idea of what to mark, it's important to discuss how much you should mark. It may sound as though you'll need to mark everything on the page, but don't panic. Even when you mark all the important information in a section, you'll still be able to condense the material. Learning to mark the right amount of text material is critical to effective marking. You should mark enough information so that you'll be able to review for an exam without ever reading any of the unmarked text again.

Avoid Undermarking

Students who don't really understand how to mark a textbook may end up *undermarking* (marking too little or too selectively) the text. When students mark only the key words in the text, they are *marking too little*. Without marking the related details, the marked material does not accurately capture all of the important information needed for review (see Sample 1 in Figure 8.4). Only the key words in Sample 1 have been marked. Read only the highlighted information. Does it make sense? Has this student marked all the important information in the selection?

Another type of undermarking results from *marking too selectively*. Some students do mark meaningful phrases; however, they miss important information by trying to pick out only one or two important points in each paragraph or headed section. These students may be trying to follow rules for how much to mark; they may have heard or read that you should mark only one main point in each paragraph or that you shouldn't mark more than 20 percent of the words on a page. In Sample 2 in Figure 8.4, the student marked only two pieces of information in the paragraph. Are these the only things you would have marked? Many students miss test questions, not because they don't study, but rather because they don't mark all of the important information. Sample 3 in Figure 8.4 contains a more accurate record of the information.

Avoid Overmarking

Overmarking can be just as bad as undermarking. If you mark everything on a page or mark whole sentences, you aren't making decisions about what's important and what isn't. Have you ever finished reading a sentence and thought to yourself, "There's something important here?" Instead of marking the entire sentence, ask yourself where the important information is in the sentence and only mark that section or those words.

FIGURE 8.4

Samples of Text Marking

Sample 1: Marking Too Little

The largest and most magnificent of all the pyramids was built under King Khufu. Constructed at Giza around 2540 B.C.E., this famous Great Pyramid covers thirteen acres, measures 756 feet at each side of its base, and stands 481 feet high. Its four sides are almost precisely oriented to the four points of the compass. The interior included a grand gallery to the burial chamber, which was built of granite with a lidless sarcophagus for the pharaoh's body. The Great Pyramid still stands as a visible symbol of the power of the Egyptian kings and the spiritual conviction that underlay Egyptian society. No pyramid built later ever matched its size or splendor.

Sample 2: Marking Too Selectively

The largest and most magnificent of all the pyramids was built under King Khufu. Constructed at Giza around 2540 B.C.E., this famous Great Pyramid covers thirteen acres, measures 756 feet at each side of its base, and stands 481 feet high. Its four sides are almost precisely oriented to the four points of the compass. The interior included a grand gallery to the burial chamber, which was built of granite with a lidless sarcophagus for the pharaoh's body. The Great Pyramid still stands as a visible symbol of the power of the Egyptian kings and the spiritual conviction that underlay Egyptian society. No pyramid built later ever matched its size or splendor.

Sample 3: Marking Meaningful Phrases

The largest and most magnificent of all the pyramids was built under King Khufu. Constructed at Giza around 2540 B.C.E., this famous Great Pyramid covers thirteen acres, measures 756 feet at each side of its base, and stands 481 feet high. Its four sides are almost precisely oriented to the four points of the compass. The interior included a grand gallery to the burial chamber, which was built of granite with a lidless sarcophagus for the pharaoh's body. The Great Pyramid still stands as a visible symbol of the power of the Egyptian kings and the spiritual conviction that underlay Egyptian society. No pyramid built later ever matched its size or splendor.

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HOW TO REVIEW YOUR TEXT MARKING

The most important reason for marking your textbook is to prepare it for later review. You may think if you read the material carefully and spend a lot of time studying it, you shouldn't have to highlight, underline, or even take notes. Even if you spend hours reciting and reviewing the information in one chapter of your textbook, you probably wouldn't remember very much of that information by exam time. Although you'll be able to remember "learned" material longer than material you read or hear only once, you still won't remember enough of it! If you mark your text as you read it, the material will be much easier to review before your exam. You can review your text material by re-marking it, taking notes on it, and writing questions in the margin.



More Tips for Marking Your Text

☐ **Mark your text.** Many students have difficulty writing in their textbooks. After years of being told not to write in books, it's difficult to actually do it. But it's an important strategy that saves time and improves your comprehension.

☐ **Avoid the used-book trap.** If at all possible, buy new texts for your classes. Many students who buy used texts rely on previous highlighting or notes that already exist in the text. It's very tempting, but it leads to passive reading. If you must buy used books, search for texts with little or no marking.

☐ **Don't overlook "external" text material.** Some important information is found outside the regular body of the text. You need to read and mark any definitions of technical terms, even if they're in the left-hand margin. Don't omit information included in charts, graphs, and other diagrams. The information under photos, in footnotes, and in boxed features is also important to your understanding of the material.

☐ **Monitor your text marking.** You need to pause every so often (at the end of a paragraph, headed section, or page) to monitor your marking. If you look back and notice that you didn't mark anything—or that you marked everything—you probably need to go back and read it again. Your marking is a good indicator of whether or not you understood the material and your level of attention to it.

☐ **Re-mark used textbooks.** If you're forced to purchase a used textbook, you still should do your

own marking. If the text is highlighted in yellow, you could use blue. If it's underlined, you could highlight it. What someone else marked may not be what your professor will test on. Would you rely on a stranger's lecture notes?

☐ **Mark math and science textbooks.** Box or highlight all formulas, as well as any problems that you want to review. Be sure you also mark the text material that explains or discusses that formula or problem. Many students ignore the prose material that's included in math and science texts, but this material is as important, or perhaps even more important, than the problems themselves.

☐ **Mark your literature books.** You can mark short stories, poetry, novels, and plays as you read. Instead of looking for main ideas and supporting details, look for lines that contain themes, major plot events, key information about the characters, examples of foreshadowing or irony, and so on. Marginal notes are especially effective for literary works.

☐ **Photocopy and mark outside readings.** Many professors assign reserved or library readings as part of the course material. Often, one or two copies are on reserve for students in the library. You may choose to read the articles and take notes on them. You could also photocopy them (if time on campus is tight) and highlight them as you read. Whatever you do, be sure to review the material before the exam.

Re-Mark Your Text

One of the most common methods of reviewing for exams is to reread your highlighted material. Unfortunately, most students do this in a rather passive manner. They quickly scan the lines of marked text, assuming that the information somehow will be absorbed into their memory. Think about the last time you studied for a test. How did you review the text material?

To conduct an effective review, you need to remain actively involved. Re-marking your text is the first step in your review. By holding a marker (or pen or pencil) in your hand, you're defining your reading activity. By planning to re-mark the text material, you're forcing yourself to think critically about the material that you marked before. As you reread the marked selections, you can determine whether you need to work on the material more. Remember, the first time you read the chapter, everything was new to you. At that time, many things may have seemed important. After having read the chapter, worked through the end-of-chapter questions, and listened to the professor's lecture, you should be able to reduce the text material even more.

There are a number of ways to re-mark your text. If you used a yellow highlighter when you first read the chapter, you can use a different color for re-marking. You might also underline, check mark, star, or even bracket the information that you still need to learn. Look at the text marking from a Sociology text (Figure 8.5). The material that's

FIGURE 8.5

Excerpt from a Sociology Textbook

World Poverty

One fact of global inequality is the growing presence and persistence of poverty in many parts of the world. There is poverty in the United States, but very few people in the United States live in the extreme levels of deprivation found in some poor countries of the world. In the United States, the poverty level is determined by the yearly income for a family of four that is considered necessary to maintain a suitable standard of living. As mentioned in Chapter 9, the official poverty line in 2002 (for a family of four) was \$18,307. By this definition, 34.6 million Americans, or about 12 percent, were living in poverty in 2002 (Proctor & Dalaker 2003). This definition of poverty in the United States identifies **relative poverty**. The households in poverty in the United States are poor compared with other Americans, but when one looks at other parts of the world, an income of \$18,307 would make a family very well-off.

The United Nations (UN) measures world poverty in two ways. **Absolute poverty** is the situation in which individuals live on less than \$365 a year, meaning that people at this level of poverty live on approximately \$1 a day. **Extreme poverty** is defined as the situation in which people live on less than \$275 a year; that is, on less than 75 cents a day. There are 600 million people who live at or below this extreme poverty level. Many of these people are in very dire straits, and many are starving and dying.

highlighted indicates the first marking, and the underlining indicates the re-marked material. Read only the underlined material. Does it effectively represent the key information in the selection?

Take Notes on Your Marking

Taking notes as you review your marking is an excellent way—perhaps the best way—to remain actively involved in your reading. Not only does taking notes force you to decide whether the information is important, but it also requires you to condense and organize the information. If you put the information in your own words as you take notes, you're using higher-level thinking skills to “translate” the text material so that it's more meaningful to you. As you take notes, you can decide how to arrange the information so that it makes sense to you. Finally, if you take notes, you can condense the critical information in a lengthy text chapter into a few sheets of notebook paper. In Chapter 9, you'll learn many new strategies and techniques for taking notes. For now though, write the heading next to the margin, skip a space, and indent slightly to list each of the details.

Write Questions in the Margin

After you finish reading and marking your text chapter, review the important information by writing possible test questions in the margin. Writing questions in the margin of your textbook provides you with an excellent way to reinforce and learn the information before you even walk into class for the lecture or a quiz. In addition, you'll already have a great self-test prepared when you go back to study for the exam. There are four basic steps involved in writing questions in the margin.

- First, go back and reread the highlighted material in the first paragraph and identify an important point that you want to remember (see Step 1 in Figure 8.6). Put your finger on the information that you think you'll need to know for the exam. That becomes the answer to your question.
- Next, generate a question that will require you to give that information as the answer and write it directly across from the “answer” in the margin of the textbook (see Step 2). Use some of the information you highlighted in your question and some as the answer. Be sure you write questions that have stated answers in the text and not true/false or *yes* or *no* answers.
- Then underline the answer to the question in your text (see Step 3). One reason to generate your own question is to put some of the information in your own words (making it more meaningful) and also to develop cues that weren't in the original text material.
- Finally, after you finish reading, go back and quiz yourself by covering the text material and reciting the answers from memory (Step 4).

FIGURE 8.6

Example of Questions in the Margin

What are the seven characteristics of goals?

STEP 2: Write question

STEP 3: Underline answer

Why should goals be self chosen?

What happens if goals are too challenging?

What factor can help you determine how challenging to make your goals?

What are moderately challenging goals?

What is another word for realistic?

What is an example of an unrealistic goal?

CHARACTERISTICS OF GOALS

To be both useful and motivating, the goals you set must have some important characteristics. Your goals should be self-chosen, moderately challenging, realistic, measurable, specific, finite, and positive.

STEP 1: Identify information

- 1. Goals should be self-chosen.** Goals that are set by your parents, teachers, or friends may not always work for you. You need to determine or choose your own goals; you need to decide what you want to accomplish. If you set your own goals, you will be more motivated to achieve them.
- 2. Goals should be moderately challenging.** You probably were told to set high or even exceptionally high goals for yourself in college; you may have been told to “shoot for the stars” or “go for straight As.” In fact, this may not be the best advice. If your goal is to achieve all As during your first semester in college, you may be disappointed. As soon as you “lose your A” in one class, you may feel that you failed to achieve your goal, and you may be tempted to give up.

One way to set moderately challenging goals is to consider what you have done in the past. Of course, everyone is different, but high school grades are fairly good predictors of college success. Why were you successful in some classes yet unsuccessful in others? You may have been more motivated, so you may have worked harder. Of course, if you didn’t work very hard in high school, you can do better in college if you choose to apply yourself; study skills can make a big difference. Even so, you should set goals that are moderately challenging—goals that will require you to achieve more than you did before but will not place undue pressure on you. Goals can always be revised if you discover you can achieve more than you originally set out to accomplish.
- 3. Goals should be realistic.** Think about whether your goals are attainable. It would be unrealistic to expect to get a B or better in Calculus if your math background is very weak and your high school grades in math were never higher than a C. To set realistic goals, you must carefully evaluate your chances of achieving each goal. Using the five-step approach to setting goals (discussed later in this chapter) can help you make this decision.

The more questions that you write in the margin, the more you can test your learning. It’s a good idea to write both broad and narrow questions. Write a broad question for each heading or subheading and then as many specific questions as you can in the space available. If your text doesn’t have wide margins, you can still use this strategy. Write the questions on a long strip of paper (about 3 inches wide), which you can line up with the top of the text page. Keep the question strip in the text on that page for later review (note the page number on each strip). You can also

write each question on the front of an index card and the answer on the back (note the page number on the back, too).

You may find it helpful to use some innovations that my students developed. You could write every other question in a different color (red then blue) and underline the answer with the same color. This helps separate your questions and their answers. You could also number each question and answer. Lori wrote questions for a section of her Educational Psychology textbook. If you look at the first sentence that Lori highlighted (see Figure 8.7), you'll notice that Lori used part of the information that she highlighted to frame her question and then used the key information she wanted to remember as her answer. Because there was so much information in this section, Lori felt that numbering her questions and answers would help keep the information more organized. If you have definitions or other material in the margin of your text, you might want to put a Post-it® note over them and write your questions on top. That way you can lift the Post-it® note and study the material underneath.

Writing questions in the margin of your text provides you with at least four interactions with the text material: You reread the highlighted material, think about its importance, turn it into a question, and then underline the answer. Of course, when you use the questions to quiz yourself—to check your learning—you're getting even more practice with the material. When I asked my students at the end of the semester to list the one strategy that they thought had helped them the most, more than 25 percent listed writing questions in the margin.

HOW TO EVALUATE YOUR TEXT MARKING

There are a number of ways to evaluate your text marking. You can test your marking before an exam and again after the exam. Each evaluation will give you more information about how well you are marking your textbook. You should consider whether you have marked the material in a meaningful way, whether you have condensed the text material, and whether the method you used was efficient and effective.

Be Sure Your Marking Makes Sense

The first way to test your marking is to see whether it makes sense. Look back at a marked page in one of your textbooks. Read only the words that you marked. Does the information make sense? Now choose a page that you marked more than two weeks ago. Do you still understand the information that you marked? Reread the entire page. Does the marking retain the meaning of the selection? If it doesn't, check to see if you marked too little or too selectively. Repeat this activity with

FIGURE 8.7

Lori's Questions in the Margin with Answers

The Preschool Years: Trust, Autonomy, and Initiative

1. What is the basic conflict of infancy?
2. What will develop if an infant's needs are met?
3. What stage is the infant in during the 1st yr. (Piaget)?
4. What aspects of the world do infants need to trust?
5. What does Erikson's second stage focus on?
6. What two things develop?
7. What types of responsibilities do infants assume?
8. What two things happen if parents do not reinforce the child's efforts?
9. What will happen if children experience too much doubt?
10. What is the third stage?
11. What does it add to their autonomy?
12. What is the challenge during this period?
13. What type of supervision should parents provide?
14. What two things occur if children are not allowed to do things on their own?

Erikson identifies ① trust versus mistrust as the basic conflict of infancy. According to Erickson, the infant will develop ② a sense of trust if its needs for food and care are met with comforting regularity and responsiveness from caregivers. In this first year, infants are in Piaget's ③ sensorimotor stage and are just beginning to learn that they are separate from the world around them. This realization is part of what makes trust so important: Infants must trust the ④ aspects of their world that are beyond their control (Bretherton & Waters, 1985; Isabella & Belsky, 1991).

Erikson's second stage, ⑤ autonomy versus shame and doubt, marks the beginning of ⑥ self-control and ⑦ self-confidence. Young children begin to assume important responsibilities for ⑧ self-care such as feeding, toileting, and dressing. During this period parents must tread a fine line; they must be protective—but not overprotective. If parents do not maintain a reassuring, confident, attitude and do not reinforce the child's efforts to master basic motor and cognitive skills, children may ⑨ begin to feel shame; they may learn to ⑩ doubt their abilities to manage the world on their own terms. Erikson believes that children who experience too much doubt at this stage will ⑪ lack confidence in their own abilities throughout life.

For Erickson, the next stage of ⑫ initiative adds to autonomy the ⑬ quality of undertaking, planning and attacking a task for the sake of being active and on the move" (Erickson 1963, p. 255.). The challenge of this period is to ⑭ maintain a zest for activity and at the same time ⑮ understand that not every impulse can be acted on. Again, adults must tread a fine line, this time in providing ⑯ supervision without interference. If children are allowed to do things on their own, ⑰ a sense of guilt may develop; they may ⑱ come to believe that what they want to do is always "wrong." The *Guidelines* on page 68 suggest ways of encouraging initiative.

material that you marked a month ago. If your marking doesn't make sense or include all of the important information in the text, you won't be able to properly prepare for your exam.

Get Feedback on Your Marking

Another way to test your marking is to compare your marked section of text with a classmate's marking. Read your classmate's marked page. How does it compare with yours? Does it make more sense than yours? If it does, compare the marked information. You may find that your classmate included more information or was better able to create meaningful phrases. Talk about why each of you chose to include or leave out specific information or words.

You can also evaluate your text marking by talking to your professor or to someone in your campus learning or tutoring center. Take your textbook with you and ask whether you're picking out the important information in the selection. If you aren't hitting the right material, ask your professor or a learning center staff member to mark a portion of a page of text for you. Then you mark a section, while that person observes. Ask questions about anything you're unsure of. If you're just getting started marking a textbook, this additional feedback can let you know whether you're using effective strategies.

Test Your Marking After an Exam

You also can test your marking after an exam using the *T Method*. Take your textbook with you when you go to take your exam. As soon as the exam is over, rush out into the hall, find a quiet corner, and sit down. Turn to any chapter that was heavily tested upon. Begin to reread that chapter. Read the unmarked and the marked areas of the page. Every time you come across something that was on the test, put a "T" in the margin of your book.

After you read through about a half of the chapter, stop and look at where the Ts appear. How many of them are in highlighted or marked areas? How many are in unmarked areas? If all the Ts are in the marked areas, you did a good job of marking.

SUMMARY

Marking your textbook increases your comprehension—your understanding—of the material, because it promotes active reading. Because many students don't really know how to mark their textbooks; they tend to mark too little or too selectively, or they mark almost everything. Strategic text marking involves thinking about what's important, deciding what to mark, and then using a simple method to identify that information. Reading to the end of the paragraph before you begin to mark will help you mark more efficiently and effectively. Avoid complex marking systems; you may find that you spend more time thinking about how to mark than about what you are reading. Marking your text also allows you

to condense the material for later review. Mark meaningful phrases and include main ideas as well as supporting details (much as you do when you take lecture notes). If you write questions in the margin, you'll improve your comprehension and be able to monitor your learning. Remarking your text, taking notes, and writing questions in the margin (and self-testing by answering your questions) are just a few ways to stay actively involved as you review your text marking. Learning how much to mark takes time and practice, so monitor your text marking after your first exam. If you missed a lot of questions because you never even marked the appropriate material, you may need to mark more information.

ACTIVITIES



1. Do you mark some of your textbooks but not others? Jot down the reasons you mark some of your texts but not others. Or if you don't mark your texts at all, list your reasons. Share your responses with the other members of your group. How similar were your lists? Do you plan to mark more of your texts? Why? What's your motivation?
2. Go to the Web site and download one copy of Activity 8-1 from the Activities Packet. After marking the text excerpt, compare your marking with the marking in Figure 8.1.
3. Read the text excerpt "Cultural Changes and the Environment," available on the Web site, and mark all of the information that you think is important. Remember to mark meaningful phrases. Add a few marginal notes or questions. Compare your marking with that of others in your group.
4. Read and mark the text selection "Further Evolution on a Shifting Geologic Stage," available on the Web site. Then compare your marking with that of others in your group.
5. Choose a selection from one of your textbooks that you read and marked at least a week ago. Re-mark the text material. How did you re-mark? How much more were you able to condense the information?
6. Print out a copy of the text excerpt, "Maslow's Hierarchy of Needs," available on the Web site. Read, highlight, and write questions in the margin. Then underline the answer to each question. Compare your marking, questions, and underlined answers with others in your group. How closely did your marking match that of the others in the group? How many of your questions were the same or similar to those of the others in the group?
7. After completing Activity 6, exchange papers with one of your classmates. Ask your classmate the questions in the margin of his or her text excerpt. Then ask your classmate to quiz you. Did you learn some of the information by asking your classmate questions? Did you learn some of the information by checking the answers your classmate gave? Did you learn some of the answers by answering your own questions? Which method helped you the most? Why?
8. After your next exam, use the T Method to evaluate your marking. What did you find? What do you plan to do differently the next time you mark your text?
9. Write questions in the margin of the text excerpt "World Poverty," in Figure 8.5. Compare your questions with those of the other members in your group.



10. Now that you've completed Chapter 8, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW



Terms You Should Know: Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.



Completion: Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. You should read to the end of the _____ before you begin marking your text.
2. Complex marking systems can interfere with your _____.
3. One way to review your text marking is to _____ questions in the margin of your text.
4. Marking only one sentence per paragraph is referred to as marking too _____.
5. When you are marking your text, you should read, _____, _____, and then mark.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. _____ main ideas are not directly stated in the text.
 - A. Applied
 - B. Implied
 - C. Comprehensive
 - D. Critical
7. _____ help(s) you summarize the key information in your text.
 - A. Marginal notes
 - B. Underlining words
 - C. Meaningful phrases
 - D. T Method

Short Answer/Essay: On a separate sheet, answer each of the following questions.

8. What are the four main reasons you should mark your text?
9. Why do some students have difficulty marking their textbooks? What should they do differently?
10. How should students evaluate their text marking?



Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Organizing Text Information

CHAPTER

9

Why You Need
to Organize
Text Information

When to
Take Text
Notes

**ORGANIZING
TEXT
INFORMATION**

How to
Review Your
Text Notes

How to
Take Text
Notes

"I now take text notes after I have completed reading the chapter. I don't wait until the night before the exam as I have done in the past. When I take text notes, I focus on the main points and ideas that are most important. I can relate my text notes to my lecture notes for comparison, which helps me learn the material better. I have found that taking text notes keeps me very actively involved in my reading."

Michelle Klimchock, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Annotate

Chart

Core Concept (or Question)

Formal outline

Headings

Hierarchical maps

Informal outline

Line map

Maps

Marginal notes

Matrix

Modified-block notes

Semantic Webs

Strand Supports

Strand Ties

Subheadings

Summary

Web Strands

Wheel map

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you take notes on textbook material after you've highlighted the information?	_____	_____
2. Do you take text notes when you read the chapter for the first time?	_____	_____
3. Do you read the whole paragraph before you begin to take notes?	_____	_____
4. Do you evaluate your text notes after an exam?	_____	_____
5. Do you usually copy information from the text in the same wording that the author used in the book?	_____	_____
6. Do you recite your text notes when you review for an exam?	_____	_____
7. Do you create concept maps when you take notes on the textbook material?	_____	_____
8. Are your text notes a good summary of the text material?	_____	_____
9. Do you tend to write down only key words when you take notes?	_____	_____
10. Do you create headings and/or subheadings in your notes to better organize the information?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 1, 3, 4, 6, 7, and, 8, and 1 point for each *no* answer to questions 2, 5, 9, and 10. Total up your points. A low score (0–4) indicates that you need some help in taking notes on text material. A score of 5 to 7 indicates that you are using some good strategies but not others. A high score (8–10) indicates that you are already using many good note-taking strategies. What did you learn about yourself by completing this activity?

WHY YOU NEED TO ORGANIZE TEXT INFORMATION

In Chapter 4, you learned that it's easier to learn and remember information when it's well organized. Have you found that it's harder to recall the information from your text than your lecture notes? One of the differences may be that your lecture notes are well organized with a short list of details under each heading. Look back at a recent set of your lecture notes. Do your headings stand out? Did you group all of the related details under the appropriate headings?

Do you take notes when you read your textbooks? You've probably discovered already that a lot of your text material is not as well organized as you'd like it to be. Although taking text notes is more time consuming than highlighting, it has many advantages. When you write out the text information, you have an opportunity to change it—to act on it. You can condense it, organize it, put it in your own words, and add other information to it. This helps increase your comprehension and prepares your text for later review. For a list of ways that taking text notes is better than highlighting, see Figure 9.1. Research studies have found that taking notes on difficult material is helpful because you're forced to organize the information in a way that makes sense to you. That helps you understand the material you're reading, learn it, and recall it during quizzes and exams.

Some Texts Lack Subheadings

Take a look at some of your textbooks. Are there any long selections of material with only a single heading? Are they a page long? Are they even longer? Even though it's only about a page long, the text excerpt in Figure 9.2 is rather difficult

FIGURE 9.1

Why Taking Text Notes Is Better Than Highlighting

- You can organize the material your way—a way that makes sense to you.
- You can create headings or subheadings to group and organize details.
- You can put the information in your own words to make it more meaningful.
- You can show how information from one section is connected to information in another section of the chapter.
- You can condense the material even more by using your own words and abbreviations.
- You can connect the new information to your prior knowledge.
- You can generate examples from your own experiences to make the information more relevant and memorable.
- You are writing—an active strategy that aids memory.
- You build cues (headings and subheadings) that lead to better retrieval.

FIGURE 9.2

Text Excerpt on Asteroids

Properties of Asteroids Asteroids are too small to be resolved by Earth-based telescopes, so we see no details of their shape or composition. Yet astronomers have learned a surprising amount about these little worlds, and spacecraft are giving us a few close-ups.

From the infrared radiation emitted by asteroids, astronomers can calculate their sizes. Ceres, the largest, is about 30 percent the diameter of our moon, and Pallas, next largest, is only 15 percent the diameter of the moon. Most are much smaller.

Because the brightness of the typical asteroid varies over periods of hours, astronomers concluded that most asteroids are not spherical. As their irregular shapes rotate, they reflect varying amounts of sunlight and their brightness varies. Presumably, most are irregularly shaped worlds with too little gravity to pull themselves into a spherical form.

Recent observations have confirmed that asteroids are irregular in shape. The Galileo spacecraft on its way to Jupiter passed through the asteroid belt twice as it looped through the inner solar system. By very careful planning, controllers directed Galileo to pass only 16,000 km from the asteroid Gaspra in late 1990. Galileo found the asteroid an oblong world 20 by 12 by 11 km covered by a layer of shattered rock soil about a meter deep and marked by numerous craters (see Figure 16-11). Again in August 1993, Galileo passed only 3,500 km from the asteroid Ida and returned photos of an irregularly shaped, cratered world 52 km long (Figure 19-6a). In fact, the photos reveal that Ida is orbited by a 1.5-km diameter moon, apparently the product of an ancient collision.

Earth-based radar confirms the irregular shape of asteroids. Asteroid Castalia (Figure 19-6b)

was imaged repeatedly at 9-minute intervals as it passed near Earth, and the radar images clearly show a dumbbell shape tumbling through space. The asteroid Toutatis (Figure 19-6c) has also been imaged by radar, and it appears to be two objects 4 and 2.5 km in diameter held together by their weak gravity like two peanuts. Some experts now suspect that many asteroids are binary objects, two bodies that collided and are now loosely bonded together.

Not all asteroids lie in the asteroid belt. Spacewatch, a program searching for small asteroids passing near Earth, has found about 100 times more near-Earth asteroids than astronomers had expected. Limited to objects smaller than 100 meters in diameter, the study suggests that as many as 50 such asteroids pass within the moon's orbit each day. The danger of impacts by such objects is small but significant, and this has even led to a hearing before Congress (The Threat of Large Earth-Orbit-Crossing Asteroids, March 24, 1993). The actual danger seems small, and astronomers are more interested in the origin of these bodies. The best guess is that they are fragments from the main asteroid belt.

The color and spectra of asteroids help us understand their composition. From their bright, reddish colors astronomers classify some asteroids, including Gaspra, as S types (Figure 19-7). They may be silicates mixed with metals, or they may resemble chondrites. C-type asteroids are very dark—about as bright as a lump of coal. They appear to be carbonaceous. M-type asteroids, bright but not red, appear to be mostly iron-nickel alloys. S types are common in the inner belt, and C types are common in the outer belt. That distribution is a clue to the origin of asteroids.

to read because the information is not well organized. Take a few minutes to read through it. You may have noticed that there are no subheadings in this section to separate and organize all of the information about asteroids. All of the details seem to blur together. Can you recall the specific characteristics of each type of asteroid? Can you even remember the different shapes of asteroids? Do you know which example goes with which shape? Although highlighting the information would help you condense it, it can't reorganize the details.

Headings let you know what a section of text is about. They also serve as cues to help you recall the information (the details) later when you're preparing for quizzes and exams. However, if you have only one heading to cue twenty or thirty details, you won't be able to remember them all. *Subheadings* are smaller headings that divide the information in a headed section into smaller chunks. What subheadings could this author have included to better organize the material? Take another look at the text excerpt and ask yourself what common information is provided about asteroids. You may have said color or shape. What other subheadings would you include? You also might have said Gaspra and Ida. Did you? You could organize this information by the names of the asteroids or by the characteristics of them. Either method would have been fine. One advantage of taking text notes is that you can organize the material your way—the way that makes the most sense to you.

Some Texts Include Details under Multiple Headings

Did you recently read a chapter that included details on the same topic spread across a number of headed sections? Would you find it confusing to read more about asteroids five pages later when you were reading a section on meteorites? Would you remember that those details related back to the information on asteroids, or would you confuse them with the details on meteorites on your exam? Many textbook authors refer back to earlier topics in later headed sections to make comparisons or show contrasts. Although this may help you better understand the similarities and differences between the topics, it can lead to confusion (the heading doesn't serve well as a cue for the details that refer to the other topic).

Take a few minutes to read the material in Figure 9.3, which is from a world history text. The author discussed details on the Old Kingdom and the Middle Kingdom, often mixing them in the same section (information on the New Kingdom is described five pages later, along with more information about the Old and Middle Kingdoms). When I asked my students to take notes on that section, some of them just copied the details down in the same order in which they were presented, mixing the details about the Old Kingdom and the Middle Kingdom within the same section of their notes. Others organized the material by grouping the appropriate details under each heading. If you highlight your text before you take notes, you'll be able to locate any displaced information and move it under the correct heading or subheading.

FIGURE 9.3

Text Excerpt from a History Textbook

The Old and Middle Kingdoms

Modern historians have divided Egyptian history into three major periods, known as the Old Kingdom, the Middle Kingdom, and the New Kingdom. These were periods of long-term stability characterized by strong monarchical authority, competent bureaucracy, freedom from invasion, much construction of temples and pyramids, and considerable intellectual and cultural activity. But between the periods of stability were ages known as the Intermediate Periods, which were characterized by weak political structures and rivalry for leadership, invasions, a decline in building activity, and a restructuring of society.

The Old Kingdom

According to the Egyptians' own tradition, their land consisted initially of numerous populated areas ruled by tribal chieftains. Around 3100 B.C.E., the first Egyptian royal dynasty, under a king called Menes, united Upper and Lower Egypt into a single kingdom. Henceforth, the king would be called "king of Upper and Lower Egypt," and a royal crown, the Double Crown, was created, combining the White Crown of Upper Egypt and the Red Crown of Lower Egypt. Just as the Nile served to unite Upper and Lower Egypt physically, the kingship served to unite the two areas politically.

The Old Kingdom encompassed the third through sixth dynasties of Egyptian kings, lasting from around 2686 to 2180 B.C.E. It was an age of prosperity and splendor, made visible in the construction of the greatest and largest pyramids in Egypt's history. The capital of the Old Kingdom was located at Memphis, south of the delta.

Although they possessed absolute power, Egyptian kings were supposed to rule not arbitrarily but according to set principles. The chief principle was called *Ma'at*, a spiritual precept that conveyed the ideas of truth and justice and especially right order and harmony. To ancient Egyptians, this fundamental order and harmony had existed throughout the universe since the beginning of time. Pharaohs were the divine instruments who maintained it and were themselves subject to it.

The Middle Kingdom

Despite the theory of divine order, the Old Kingdom eventually collapsed, ushering in a period of disarray. Finally, a new royal dynasty managed to pacify all

Egypt and inaugurated the Middle Kingdom, a period of stability lasting from around 2055 to 1650 B.C.E.

Egyptians later portrayed the Middle Kingdom as a golden age, a clear indication of its stability. Several factors contributed to its vitality. The nome structure was reorganized. The boundaries of each nome were now settled precisely, and the obligations of the nomes to the state were clearly delineated. Nomarchs were confirmed as hereditary officeholders but with the understanding that their duties must be performed faithfully. These included the collection of taxes for the state and the recruitment of labor forces for royal projects, such as stone quarrying.

The Middle Kingdom was characterized by a new concern of the pharaohs for the people. In the Old Kingdom, the pharaoh had been viewed as an inaccessible god-king. Now he was portrayed as the shepherd of his people with the responsibility to build public works and provide for the public welfare. As one pharaoh expressed it, "He [a particular god] created me as one who should do that which he had done, and to carry out that which he commanded should be done. He appointed me herdsman of this land, for he knew who would keep it in order for him."

Chronology The Egyptians

Early Dynastic Period (Dynasties 1 - 2)	c. 3100–2686 B.C.E.
Old Kingdom (Dynasties 3 - 6)	c. 2686–2180 B.C.E.
First Intermediate Period (Dynasties 7 - 10)	c. 2180–2055 B.C.E.
Middle Kingdom (Dynasties 11 - 12)	c. 2055–1650 B.C.E.
Second Intermediate Period (Dynasties 13 - 17)	c. 1650–1550 B.C.E.
New Kingdom (Dynasties 18 - 20)	c. 1550–1070 B.C.E.
Post-Empire (Dynasties 21 - 31)	c. 1070–30 B.C.E.

FIGURE 9.3 (Continued)**Disorder and a New Order:
The New Kingdom**

The Middle Kingdom came to an end around 1650 B.C.E. with the invasion of Egypt by a people from western Asia known to the Egyptians as the Hyksos. The Hyksos used horse-drawn war chariots and overwhelmed the Egyptian soldiers, who fought

from donkey carts. For almost a hundred years, the Hyksos ruled much of Egypt, but the conquered took much from their conquerors. From the Hyksos, the Egyptians learned to use bronze in making new farming tools and weapons. They also mastered the military skills of the Hyksos, especially the use of horse-drawn war chariots.

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Some Material Is Better Organized with Graphic Displays

Some text material is easier to remember when it's organized by creating graphic displays. Many authors include charts, graphs, and concept maps of one form or another to help students see how information is organized. You've probably seen them in your science, history, and economics texts. However, they don't appear for all of the material you need to learn. Later in this chapter, you'll learn to create maps and charts to organize and separate closely related details. You'll find that when you do create your own organizational system for the text material, you're able to better learn and remember it.

WHEN TO TAKE TEXT NOTES

There are benefits to taking notes at different points in your reading and study of the textbook. You can take notes when you first read the chapter, after the lecture, or before the exam.

As You Read the Chapter

Some students prefer to take notes as they read the chapter instead of highlighting it. They find that it helps them better understand what they're reading. Do you take notes the first time you read the chapter? If so, you may find that you write down more information than you'll need. After all, the information will be new to you, and everything may seem important. You may have already discovered that note taking is more time consuming than highlighting. So, highlight your text before you take notes to gain a better understanding of the information. This allows you to identify displaced information and gives you the opportunity to see how the information is connected. If you're using the S-RUN-R Reading/Study System, you

already may have discovered that taking notes after highlighting saves time and helps you organize the information more effectively.

After the Lecture

Taking text notes right after the lecture has several advantages. If you wait until after the lecture to take your text notes, you'll avoid duplicating the information in your lecture notes. That will save you time. Then you can condense the information in the text while editing your lecture notes. If your professor's lecture follows the text fairly closely, you can fill in information that you missed during the lecture and at the same time note important points that were never touched on in class. Write your text notes in another notebook or on your laptop so that you can study your text notes and your lecture notes together before an exam.

When You Prepare for the Exam

Another good time to take your text notes is when you're preparing for your exam. Instead of just reading over the highlighted text material, take notes on it. As you know, just reading without some form of marking is a passive activity that results in little actual learning. By the time you're ready to prepare for the exam, you already may have learned a lot of the information that you originally highlighted. Not only will you save time by waiting to take notes, but you'll also benefit from the active review that requires you to determine what you still need to learn. Writing down this information will help you organize it so you can learn it and allows you to condense what you need to study for the exam. Of course, you still need to practice the information in your notes to learn it.

HOW TO TAKE TEXT NOTES

There are many different ways to take notes on text material. In Chapter 8, you learned how to create marginal notes and write questions in the margin to *annotate* (add comments or summary notes) the text. Some other useful methods are taking written notes in outline, modified-block, or summary formats. You may also find that mapping and charting the text material helps you organize it more effectively. In this section, you'll learn how to use each of these note-taking techniques. Try each method as you do your own reading. Then decide which one works best for you.

Take Written Notes

Taking written notes is probably the most common method for taking notes from text material. You already may be making notes in the margin of your text as you read. These *marginal notes* help you focus your reading and can serve as recall cues

for your highlighting, but they don't restructure the information. In order to restructure the information, you need to take notes outside of the text, on notebook paper, index cards, or your computer.

Most students like to use the same format to take text notes that they use for lecture notes. Generally that works well; however, the block method is not the best method for taking text notes. Block notes work for lectures because you can get the material down quickly. However, a disadvantage of block notes is that you can't organize the material quite as well. Because time is not as critical a factor when taking text notes, you should use formal outlining, informal outlining, or modified-block notes. All of these methods allow you to organize the information and provide you with enough room to write questions in the margin.

Formal Outline

One popular method of taking notes on text material is outlining. If you want to create a *formal outline* to take your notes, you may want to use the author's organization to structure your notes. Refer to the table of contents at the beginning of the book to find the main headings to use in your outline. These may be the chapter subdivisions or the main headings. Use Roman numerals (I, II, III, IV, and so on) for them in your outline.

Read and mark the first section in the chapter. Then write down the heading and use a capital letter (A, B, C, D) to indicate that it's a main point in your outline. Go back and jot down any other important information that you want to include. Number these points using Arabic numerals (1, 2, 3, and so on). If you wish, you can further break down your outline and indicate subpoints with lowercase letters (a, b, c). Dividing the material into main points and subpoints helps you condense and organize it for study.

Informal Outline

Although formal outlining is useful, informal outlining is more efficient for taking notes (see Figure 9.4). If you've been using the informal outline method for taking lecture notes, you already are familiar with the basic format. You simply indent each statement to show its level of subordination in an *informal outline*. When you take notes on your text, you can rely on the author's organization or create your own. You can use the chapter subdivisions as your main points. You don't have to use every heading as a main point; some of them may be combined, separated, or omitted. Write the heading next to the left margin, go to the next line, and then indent to indicate supporting information. Although outlines generally lend themselves to organizing information, you may need to create headings and/or subheadings, even when the author hasn't included them. You also need to dig through the material and gather the details under each appropriate heading. Don't forget, your outline will be much more helpful if you condense the information into meaningful phrases instead of copying entire sentences.

FIGURE 9.4

Sample Notes in
Informal Outline
Form

	Benthic Communities
	Rocky Intertidal Communities
	Intertidal zone
	land between highest and lowest marshes
	hundreds of species
	Problems living there
	wave shock — force of crashing waves
	temperature change
	ice grinding against shoreline
	higher altitudes
	intense sunlight
	in tropics
	Reasons for diversity
	large quantities of food available
	strong currents keep nutrients stirred
	large number of habitats available
	high, salty splash pools
	cool, dark crevices
	provide hiding places
	rest places
	attachment sites
	mating nooks
	Sand Beach and Cobble Communities
	Three types
	Sand beaches
	forbidding place for small organisms

Modified-Block Notes

You can also use *modified-block notes* to organize text information. In this case you list all important details directly under each other. Some students put a dash or bullet in front of each meaningful phrase, whereas others simply indent the list slightly. In the sample of modified-block notes in Figure 9.5, the information is well organized and includes sufficient detail to make it useful for later study. If there are too many details to list under just one heading, you can create additional headings or subheadings to organize the material in a way that makes it easier to study and learn.

Summary

Some students prefer to summarize the information. A *summary*, is a condensed version of the information, generally written in sentence or paragraph form. If you decide to summarize your text information, you need to break down the chapter into shorter segments. You could write short summaries of each headed section or combine the information from several sections under a new heading that you

FIGURE 9.5

Sample Notes in
Modified-Block
Form

	Levels of Depression
	Depressive Episodes
	— mildest form
	— lasts several weeks or several months
	— little pleasure — feel empty or worthless
	— headaches, difficulty sleeping
	— comes & goes without warning
	— triggered by death or simple things (schedule change)
	Dysthymic Disorder
	— psychotic depression
	— thought disorder
	— more severe — can last a year or more
	— occasional delusions
	— psychomotor skills very slow
	— no energy — want to stay in bed
	— low risk of suicide but can be dangerous
	— few friends, lonely, alone at home

create yourself. In any case, before you start writing your summary, read the entire section, think about what the author is saying, and decide what you think is important. Then write out the main points or key information in your own words. Of course, if you highlight as you read the section, you may find that it's easier to identify and organize the key information to include in your summary.

Remember to include the actual points that the author is making. For example, don't just say that the author gives four reasons that you should mark your text—you need to list the reasons. Remember that your purpose for writing a summary is to take notes on the text. You need all of the important information so you can study for your exam. Vague summaries are a common problem when students try to summarize an entire chapter in one or two paragraphs. However, some students make the same error even when dealing with shorter segments. (A good example of a summary, shown in card A of Figure 9.6, includes both the main points and details contained in the text.)

Use Note Cards to Organize Your Text Material

Some students prefer to take notes on index cards. As you'll see in later chapters, note cards or index cards can be used for many study techniques. They're especially effective for taking notes, though, because they make it easy to organize information and they're so easy to carry around. You can use note cards to organize all the important information on one specific heading or topic.

Write the heading or subheading at the top of the card; then jot down any important supporting information that you want to review. You can write a summary

FIGURE 9.6

Sample Note Cards

Further Evolution

Major geologic events had an effect on land and sea life. During the Paleozoic Period the land masses Gondwana and Laurasia joined to form Pangaea, a single world continent. All of the remaining surface of the Earth was covered by water — the Tethys Sea.

As the continents collided, the overall diversity of species declined, and many habitats were lost. This resulted in a 96% reduction of marine species 240 million years ago. Climatic changes and changes in ocean currents affected all land & sea organisms.

Card A

Further Evolution

Paleozoic Period

- Major geologic events
- Led to effects on evolution of life
- Gondwana & Laurasia → Pangaea
- Rest of surface covered by Tethys Sea

Collision of landmasses

- habitats lost
- diversity of life declined
- reduced # species of marine animals by 96% (240 m yrs ago)
- led to changes in climate & currents, which affected all life forms

Card B

of the text material or take notes in outline or modified-block formats. Look at the sample note cards in Figure 9.6. Card A summarizes the text information. Card B contains modified-block notes on the same information. Which method do you think would work best for you?

If you do take notes on index cards, you may also find it helpful to write questions about the important information on the back of each note card. By doing so, you're creating a set of self-test question cards that you can use to quiz yourself on the material. Don't underline or highlight the answers on the front of your index card. You want to be able to study the material on the front of the card in an integrated (connected) way and then use the questions on the back of the card to study the material in an isolated way (learning the specific answers to specific questions).

Create Concept Maps

Maps are visual displays of text information. Maps help you organize the key information into easy-to-read and easy-to-remember pictures or diagrams. Although

there are many different types of concept maps, only line maps, hierarchical maps, and Semantic Webs will be described in this chapter. You may find that mapping is a great way to take notes. When you take exams, this strategy can help you recall the information that you learned because of the way you organized it. You may also find that you can visualize it in your mind or remember how you set it up. Mapping is an even more active method than some others we've discussed because you have to move outside the author's organizational framework and create your own.

Line or Wheel Maps

One of the easiest types of maps to create is the line or wheel map. A *line map* or *wheel map* is a visual display of information drawn by adding lines or spokes that radiate out from a central hub. You already may be familiar with time lines from history class. To create a line map for other types of text material, write the topic in the center of the paper and then add subordinate points on lines that radiate up, down, or out from it. Add supporting details by inserting lines that extend out from the previous lines. Many students like using line maps because they provide more space to write meaningful phrases.

Although they seem easy to create, it's also easy to make mistakes when designing your line map. First, don't turn the paper as you draw the lines. You want the information to be written horizontally across the paper so that you can easily study and learn it. If you turn the paper, you may find that half of your information appears upside down. There's also a tendency to simply list all of the details on individual lines that extend out from the heading. For texts that contain only a few details, this is fine; however, some text material is so detailed that you could have fifteen or twenty lines all connected to one heading.

Instead, you need to create subheadings as you map the text information. Subheadings organize the information, separate the details into easier-to-remember chunks, and serve as additional cues to help you learn and retrieve the information. Although the author didn't include the subheadings *food source*, *social practices*, and *technology*, Christy created those subheadings to better organize the text material in Figure 9.7. You may have also noticed that Christy made some notes on the introductory material from the text at the top of her map. As you create your own line maps, feel free to move outside of the author's organizational structure and create one that will make your map a well-organized study tool.

Hierarchical Maps

One common form of map is the *hierarchical map*, which provides a top-down display of information. You often see this form of map in science texts in the form of flowcharts or process charts. To create a hierarchical map, write the topic at the top of the page and put a box around it. Then draw lines to indicate the subdivisions (headings), and write and box each of them. You can then further divide each of these points into one or more subheadings and then add supporting points. Wendy

FIGURE 9.7 Christy's Line Map

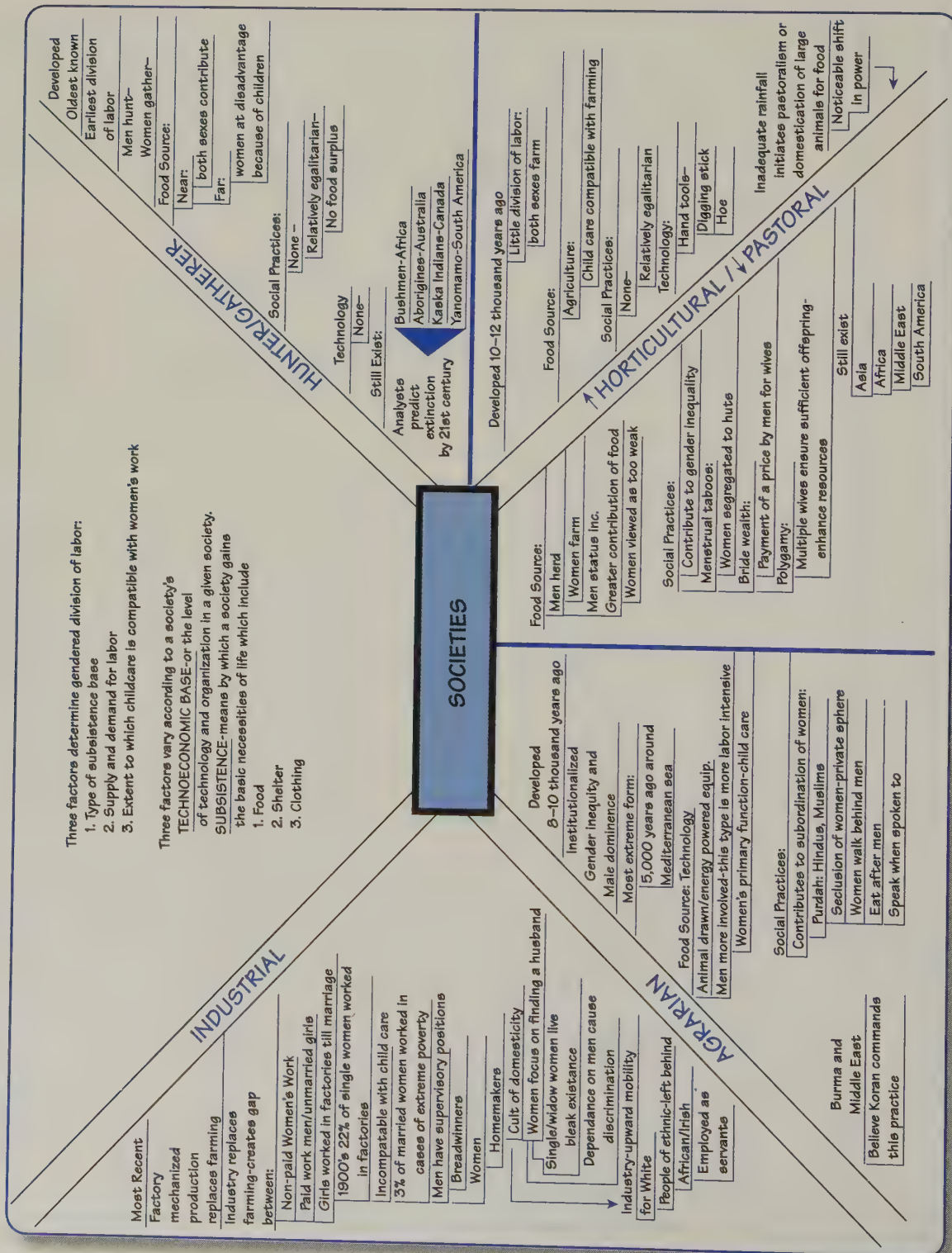
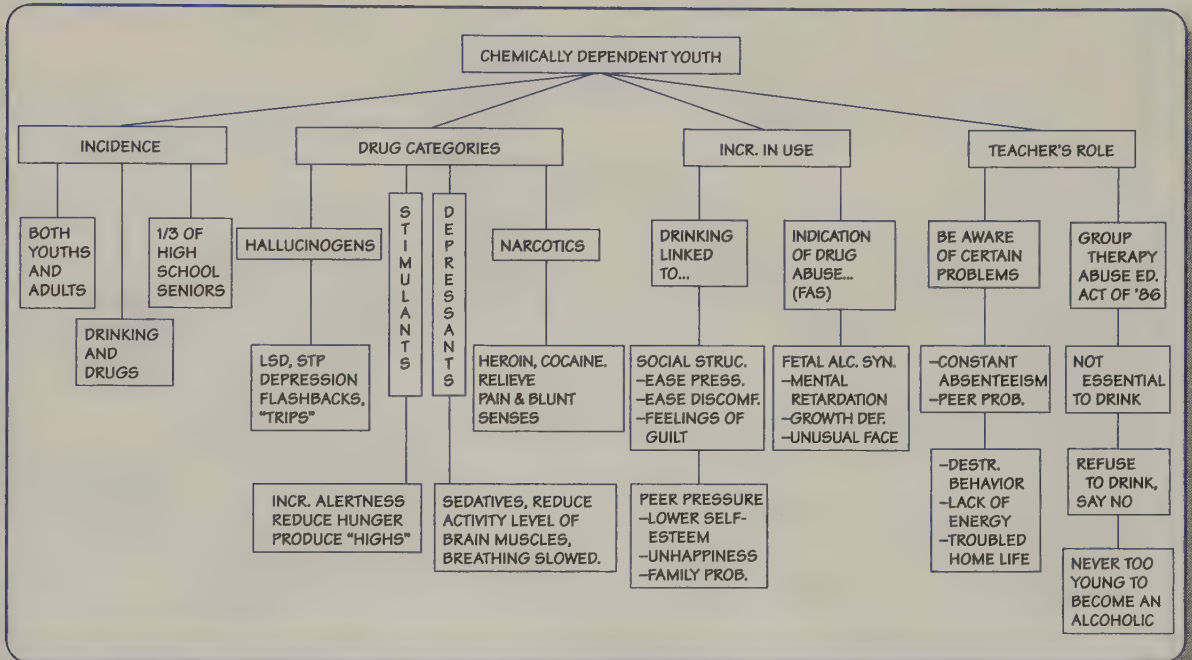


FIGURE 9.8

Wendy's Hierarchical Map

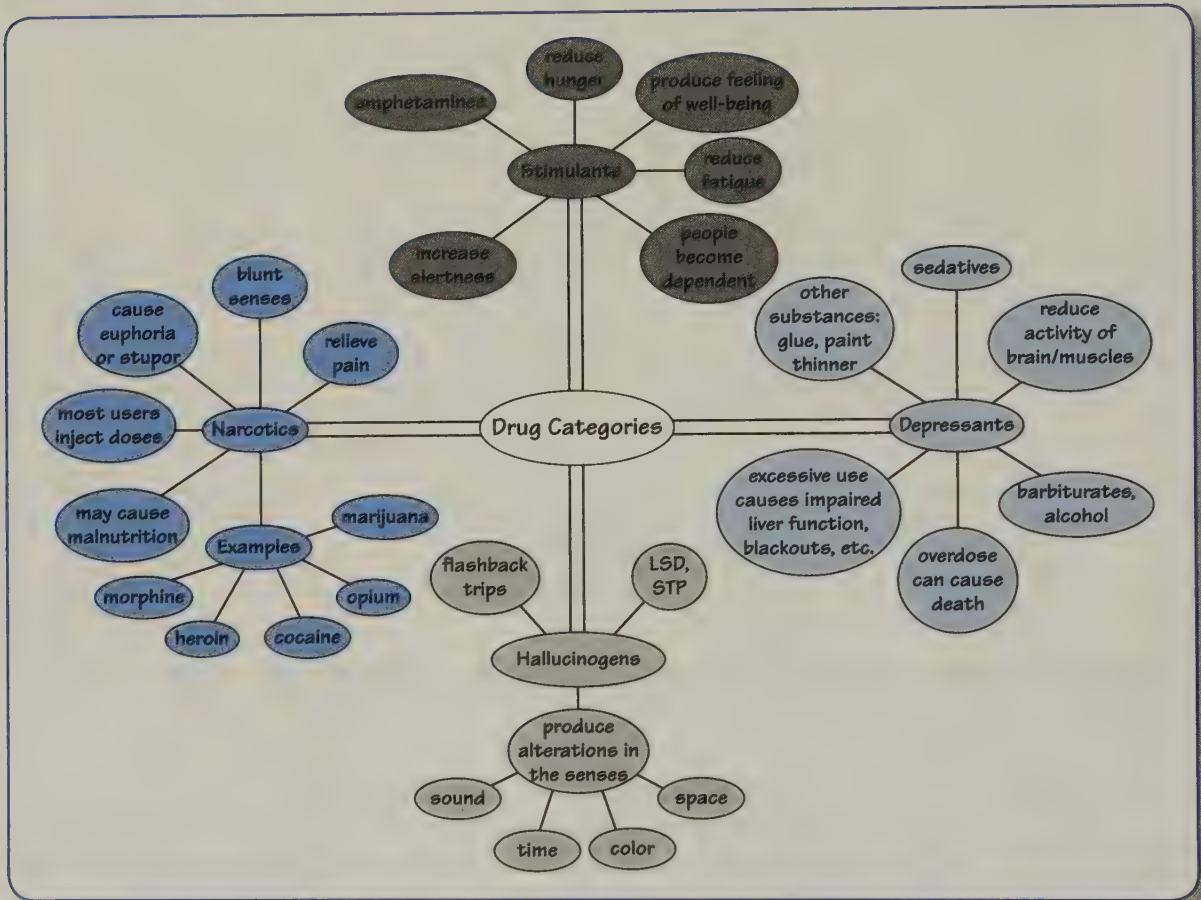


developed a hierarchical map on the text material, "Chemically Dependent Youth," from her special education textbook (See Figure 9.8). If you compare Wendy's map to the excerpt on the Web site, you can see the natural progression from the main topic of the selection down to the supporting details.

Semantic Webs

One of the newest styles of mapping is the Semantic Web. Instead of using a top-down display, as in the hierarchical map, *Semantic Webs* radiate from a central focal point. There are four main components in a Semantic Web: the Core Concept (or Question), the Web Strands, the Strand Supports, and the Strand Ties. The *Core Concept* (or *Question*), is the main focus (the topic) of the text material you plan to map. It may be the title of an article, a major division of the chapter, or a heading of a long section of text. To start your Semantic Web, write this word, phrase, or question in the center of a piece of paper and draw a circle or oval around it. *Web Strands* show the headings (or subheadings if a heading is used as the Core Concept) that subdivide the Core Concept. They are joined to the Core Concept by lines that radiate from it. Circle each Web Strand as well. The *Strand Supports* do just what their name implies: They support the Web Strands. They include the details that support the Web Strands. Finally, the *Strand Ties* are words or phrases

FIGURE 9.9 Kelly's Semantic Web



that are written on the lines that connect some of the information. They define the relationships between some of the Web Strands or Strand Supports.¹

Can you locate each component in Figure 9.9, the Semantic Web that Kelly produced for the “Chemically Dependent Youth” selection? First, what is the Core Concept? If you look at the center of Kelly’s Web, you’ll see that she used the phrase “Drug Categories.” It also is easy to find the four Web Strands because Kelly used double lines to connect them to the center focal point. You may have noticed that Kelly used several levels of Strand Supports. She moved from “Narcotics” (a Web Strand) to “Examples” (a Strand Support serving as a subheading) to “marijuana” (a detail). Even though this last level of support wasn’t in the “rules” for how to construct a Semantic Web, Kelly felt that the text information demanded further division. Don’t leave out information you think is important just because it doesn’t fit the formula

¹Adapted from G. Freeman and E. G. Reynolds, “Enriching Basal Reader Lessons with Semantic Webbing,” *The Reading Teacher*, 33 (1980): 677–684.

for a particular type of map. Instead, adapt the mapping technique to fit your text material. You can have second-level, third-level, and fourth-level Strand Supports if the text demands it. Because college text material is so detailed, you should have more layers of Strand Supports. Remember, you're going to use these maps to study for your exams. You may have noticed that Kelly didn't add Strand Ties to her map. She could have written "used to" on the line between "Narcotics" and "relieve pain," or "leads to" on the line that connects "Narcotics" to "blunt senses."

Color coding your maps can also help you recall the information. Color coding will work on any type of map, but it's especially effective for Semantic Webs because you create "clusters" of information for each section of the text material. You can either draw the ovals in color or use a highlighter or colored pencil to fill in each portion of the map. For example, you could color code all of the information related to narcotics orange, stimulants red, depressants blue, and hallucinogens green. Using a different color for each cluster in your map helps separate the details and provides you with an additional cue to trigger your memory of the material. It's important to use light colors if you're going to shade the information that you write—you want to be able to read it clearly. For some material, you may find that the colors you choose are related to the material itself, providing even more cues to aid your memory.

Create Charts

A *chart* is a graphic display of information that shows the similarities and differences of closely related information. You can't chart an entire chapter, because so many unrelated topics are presented; however, you can chart some sections of chapters. For example, you just read about different types of asteroids and kingdoms. In each text selection, you read about similar types or forms of the same thing. Charting information forces you to organize the information more than any of the other forms of note taking, because you must develop categories for comparison and contrast. By separating the distinct features of each type of asteroid, for example, you'll be able to better learn their differences for an exam.

A *matrix*, a chart with rows and columns, is often used to organize text information. A portion of Melissa's chart is shown in Figure 9.10. To set up the chart, you need to first include the things that you are reading about. If you decided to chart the four drug categories, you would write the names of each along the left margin of your paper. These would be like the headings in written notes. The next step is not as easy. To complete the framework of your chart, you need to create categories for comparison across the top. The categories in a chart are similar to the subheadings that you would create in written notes. You'll need to read and think about the material in the text selection to determine what kind of information is presented about each one that is similar to, yet different, from the others. The final step in creating a chart is to fill in the details. Refer back to the text material and write them in the correct box in your chart. You'll notice that (in most cases) each of the details will

FIGURE 9.10

A Portion of Melissa's Chart

Overview of Piaget's Stage Theory

Period	Age	Definition	Development	Key Concept or Flaw
Sensorimotor	birth to age 2	Ability to coordinate sensory inputs with motor actions	Symbolic thought Behavior dominated by innate reflexes	Key concept: Object permanence Recognizing that object continues to exist even when no longer visible
Preoperational	age 2 to age 7	Improve use of mental images Preoperational because of all the weaknesses	Development of symbolic thinking Not yet grasped concept of conservation: quantities remain constant regardless of shape or appearance	Key flaws: Centration: Focus on one part of problem Irreversibility: Inability to undo an action Egocentrism: Inability to share other's viewpoints Animism: Believe all things are living

be different. In some cases, the author may not provide the information necessary to fill all of the boxes in your chart; don't worry if some boxes remain empty when you're done.

Refer to the material on asteroids that you read at the beginning of the chapter. As you read that material, you had to organize it so that you could sort out the various details about each type of asteroid. In each case, there was information about the color, the shape, and the size of the different types of asteroids. What other types of information would you also include? The advantage of charting is that you really must create subheadings to create a chart—you have to organize and categorize the information. In written notes, you aren't forced to organize the information—nothing is stopping you from just listing all of the details under one heading. Because the information is better organized in a chart, you can learn it more easily.

You need to make your chart fit the material. In one matrix you could have four categories across the top, and in another you might have seven. It all depends on how many aspects of the topic are presented. If you must, turn the paper sideways, write smaller, or create your chart on the computer (use the Table menu). You can color code your charts just as you do your concept maps. Be sure to color all of the details about each type of asteroid, kingdom, or drug category the same color. You want to be able to remember which details go with each type.

TIP

More Tips for Organizing Text Information

- ☐ **Create word cards.** As you read (or even before you read) the chapter, make a set of word cards for all of the new technical terminology. Write the word on the front of the card and the definition on the back (one per card). This will help improve your understanding of the terms and the text material. You can begin working on learning the definitions immediately.
- ☐ **Take notes on difficult material on note cards.** Writing your notes on index cards serves two purposes. First, you organize the information from one headed section (or one specific topic) on each card. This may make the information easier for you to learn and remember. Second, you can carry your cards with you for quick reviews during work breaks, while commuting, or even before class begins.
- ☐ **Add questions to your note cards.** If you take notes only on the front of each card, you can write recall questions on the back. You can study the material on the front of the card and then check your learning by answering the questions on the back. Shuffle the cards to make sure you aren't learning the information in order.
- ☐ **Take notes on literary assignments.** Use a separate index card for each play, short story, or novel you read. Develop a list of categories of information that you want to record for each work. You may want to include the title, author, setting, theme, main characters, symbolism, and a brief summary or diagram of the plot line. Jot down any other important information that stands out, and include your own reaction to what you read.
- ☐ **Create a template on your computer.** If you plan to use the same format for your note cards for a particular text, create a template on your computer, type in the notes for each section, and print out your "cards."
- ☐ **Take notes on outside reading assignments.** Use note cards to take notes on any outside reading material. Include the title of the article and the author at the top of the card and then jot down the important material using any of the note-taking methods.
- ☐ **Expand concept maps.** Many textbooks, like this one, have concept maps at the beginning of every chapter. They serve as an overview of the chapter. In most cases these maps include only the topics and main points that you will be reading about. Copy the map onto your own paper so that you can add details to it as you read.
- ☐ **Compare your text notes with those of another classmate.** Until you feel more confident about the content and organization of your text notes, get together with a classmate or study group to compare notes.
- ☐ **Get help from your professor or your college learning center.** If you haven't taken text notes before, ask your professor or someone in your college learning center to evaluate your text notes. Their feedback can help you take better notes in the future.

HOW TO REVIEW YOUR TEXT NOTES

There are three main ways to review text notes, but simply reading over your notes is not one of them. Instead, you should recite the information in your notes, replicate the information in your notes, or add recall questions in the margin and use them to quiz yourself on the material.

Recite Your Notes

One way to transfer the information in your notes into your long-term memory is to recite it. First, practice the information by reviewing the main and supporting points. Try to recall and recite the headings that you used to set up the information in your notes. Cover the details in your notes with your hand. Then recite all of the details that you can remember using the heading as a cue. Look back at your notes to see how many you got right. Then cover your notes and practice again. If you made note cards, carry them with you and review them whenever you have a few minutes to spare. Then look away and try to recite (or mumble) the information. Try taping your notes to a mirror, or tack them to a bulletin board. Review them in the morning and then recite them as you walk to class. When you review charts or matrices, don't try to learn all the information at once. Work on one column or row at a time.

Replicate Your Notes

Another way to review text notes is to replicate them. Take a blank sheet of paper and try to reconstruct your notes. If you mapped the information in the text, you probably will find that it's fairly easy to recall the visual image that you created; try to remember the map and also how you set it up. If you made a detailed map, practice drawing it one section at a time. You also can practice writing out your modified-block notes, outlines, or charts. After you practice learning the information in a chart, use a blank sheet of paper and write in the headings and the categories. Then try to fill in the details one row across or one column down. Keep working on the matrix until you can write it from memory.

Add Recall Questions

If you took written notes, you can also write recall questions in the margin as a way of reviewing your notes. Be sure you create both general and specific questions so that you can test yourself on all of the important information. You can write your questions when you first take notes or when you review for your exam. Just writing the questions and highlighting or underlining the answers forces you to go back and review your notes. Then you get another review of the material each time you quiz yourself. If you've already written your recall questions, review by covering your notes and writing or reciting the answers to the questions. Gavin, Beth, Chris, and Sara developed a set of notes and recall questions on text material from an anthropology textbook. A portion of those notes is shown in Figure 9.11. Did you notice that both general and specific questions are included? Can you identify the answers to each of the questions?

FIGURE 9.11

Text Notes with Recall Questions

	Types of Political Organizations
	Band Societies
What are the characteristics of band societies?	Characteristics
	• least complex
What is the occupation of bands?	• small, nomadic groups of food collectors
How large are the groups?	• can range from 20 to several hundred
How much role specialization is there?	• members share all belongings
What is egalitarian?	• very little role specializations
	• egalitarian—few differences in status and wealth
	Political Integration
How much political integration occurs?	• have least—bands are independent
What is the political integration based on?	• based on kinship and marriage
What ties members of bands together?	• bound together by language and culture
	Leadership roles
What type of leadership occurs in bands?	• informal—no designated authority
Who serves as leader? Why?	• older men are leaders—respected for their wisdom and experience
Who makes decisions?	• decisions made by adult men
What are the powers of a head man?	• head man advises—has no power
	Example
What is an example of a band society?	!Kung of the Kalahari
	Tribal Societies
What are the characteristics of tribal societies?	Characteristics
What is their occupation?	• food producers
What are pop. like?	• populations—large, dense, sedentary

SUMMARY

Because you can learn and remember information better when it's well organized, you need to take notes on your text. A great deal of text material is not very well organized (making it difficult to learn and remember), so you need to reorganize it by creating your own system. You may need to add headings and/or subheadings, move information around to group it under the appropriate heading, or separate and label closely related material. You can accomplish all of these tasks and, at the same time, condense the material and improve your comprehension if you take notes on your text.

Although many students take notes as they read the chapter for the first time, that's not the most efficient strategy. Because everything seems important during a first reading, many students tend to write down much more information than they would after hearing the lecture or when reviewing for an exam. Taking written notes, writing recall questions, and making marginal notes are effective ways to take text notes on most material. Concept maps and charts are especially effective for some students and some types of material. Creating hierarchical maps, Semantic Webs, line maps, and charts allows you to organize material in ways that can more easily be recalled for later use. Just taking written notes or creating maps and charts doesn't automatically mean that you have learned the information, though. Review your notes on a regular basis by reciting them, writing them from memory, or using your recall questions to monitor your learning.

ACTIVITIES



1. In Chapter 8, you learned that highlighting your text promotes active reading, helps you identify the important information, condenses the material, and helps prepare your text for later review. Create a chart with the following headings: Course Name, Highlight, Take Notes, and Your Motivation. As you complete the chart, think about whether you need to just highlight or whether after highlighting you need to take notes on the material for each of your courses. Think about why you would benefit from taking text notes on some or all of your text material? What's your motivation?



2. During the next week of classes, experiment with taking notes at different times. Take notes on one part of a text chapter as you first read the chapter. Then take notes on a different part of the chapter after the lecture. Finally, wait until the end of the week and take notes on another section of the chapter. Note the time it took you to complete each task. What did you find? Which set of notes do you think is most useful? Why?



3. Refer to the text material on asteroids in Figure 9.2 and jot down a list of subheadings that you would use to better organize the information. Compare your list of subheadings with the lists of the other members of your group. Did you include the same subheadings? Work together to generate a list of subheadings that you all agree on.





4. Although I don't usually encourage students to use multiple colors when highlighting, here's a case where it will help you see how to organize the text material in Figure 9.3. Use one color to mark all the details that relate to the Old Kingdom and another color for details related to the Middle Kingdom. Did you find that you had to use the two colors

across headed sections? Did this help you sort out the information and identify the details related to each heading?

5. Go back to the text material you marked in Activity 4 and take notes. Use the headings Old Kingdom and Middle Kingdom and list the details that you highlighted under the appropriate headings.
6. From the Web site, download one copy of Activity 9-1 from the Activities Packet. Take notes on note cards using both the summary and the informal outline or the modified-block method. You may find that highlighting before you take notes will save you time and help you organize your notes. Then compare your notes to those of other members in your group.
7. Using the text material on Desert Biomes available on the Web site, work as a group to map the information. First, highlight the text material and discuss what you think are the important points that should be included in your map. Then create a set of subheadings to better organize the material. Once you know what you want to include in your map, ask each group member to create a line map, a Semantic Web, or a hierarchical map. Compare your map to the others to evaluate the organizational structure and the content you included. Which method do you think will work best for you?
8. Read the excerpt “Chemically Dependent Youth” on the Web site and print out a copy of the matrix on Drug Categories. Add another heading and complete the matrix by filling in each of the squares with the relevant information. Compare your chart with those of at least two of your classmates.
9. Think about the text material you read during the past two weeks. Which method of note taking would be the most effective for each of your texts? Why? Create a chart with the headings: Text Selection, Type of Note Taking Used, and Your Reason for Choosing It. Complete the table for three different sections of text (from at least two courses) and then share your results with a group of your classmates. What were the most common methods of note taking used for various types of text material?
10. Now that you’ve completed Chapter 9, take a few minutes to repeat the “Where Are You Now?” activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you’ve learned in this chapter?

CHAPTER REVIEW

 **Terms You Should Know:** Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.

 **Completion:** Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. You may not want to take text notes as you read the chapter for the first time because everything seems _____.

2. You can edit your _____ notes as you take your text notes.
3. Some students like to take text notes on _____ because they can carry them around to review when they have a few extra minutes.
4. _____ show the supporting details in a Semantic Web.
5. _____ cannot be used to take notes on entire chapters.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. _____ are not as effective for text notes because they don't organize the information as well as other formats.
 - A. Block notes
 - B. Informal outlines
 - C. Formal outlines
 - D. Concept maps
7. Which of the following is a top-down method of taking text notes?
 - A. Summaries
 - B. Hierarchical maps
 - C. Semantic Webs
 - D. Charts

Short Answer/Essay: On a separate sheet, answer the following questions.

8. Why do students need to organize their text material?
9. Why is charting an effective method for some text material?
10. How should students review their text notes?



Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Preparing for Exams

CHAPTER

10

Gather Information
Before You
Study

Use the
Five-Day
Study Plan

**PREPARING
FOR EXAMS**

Evaluate Your
Preparation

Use Active
Study Strategies

"Recently I had a Psychology test. I made study sheets and question cards. Then I put myself on a five-day preparation schedule. I wrote and recited a lot. Going into the test, I felt very confident about my ability to do well on the test. I received a C-average on my first couple of tests, but on this one I got a B. This proves to me if I can get myself to prepare properly now that I know how to, I can get the grades that I want."

Nelson Hernandez, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Analysis-level questions
Application-level questions
Comprehension-level questions
Evaluation-level questions
Five-Day Study Plan
Integrated learning

Isolated learning
Knowledge-level questions
Preparation strategies
Question cards
Recall-level learning
Recognition-level learning

Review strategies
Self-tests
Spaced study
Study sheet
Synthesis-level questions
Word cards

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. When preparing for exams, do you generally just read over the material?	_____	_____
2. Do you tend to miss class the day before the exam?	_____	_____
3. After an exam, are you unsure of how well you did?	_____	_____
4. Do you make up self-tests as a way of studying for exams?	_____	_____
5. Do you study both by yourself and with a group before a very difficult exam?	_____	_____
6. Do you tend to study only the day or night before the exam?	_____	_____
7. Do you review your lecture notes and text material together according to the topic?	_____	_____
8. Do you often know the answers to multiple-choice questions even before you look at the alternatives?	_____	_____
9. Do you review by reciting out loud or by making up study sheets?	_____	_____
10. Do you space your study time over several days?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 4, 5, 7, 8, 9, and 10, and 1 point for each *no* answer to questions 1, 2, 3, and 6. Total up your points. A low score (0–4) indicates that you need to learn how to study for college exams. A score of 5 to 7 indicates that you are using some good strategies but not others. A high score (8–10) indicates that you are already using many good test preparation strategies. What did you learn about yourself by completing this activity?

GATHER INFORMATION BEFORE YOU STUDY

Before you begin to study for an exam, gather information about the exam, about yourself, and about your level of motivation. The more you know about the exam, the better you can prepare for it. In addition, knowing how you learn best can help you choose the most effective ways to prepare for an exam. Your level of motivation is important, too. It affects how hard you're willing to work to learn the material.

Learn About the Exam

The first thing you need to do is find out what the exam will be like. If your professor hasn't already discussed the exam, ask about it. You need to know what types of questions you will be expected to answer. Ask whether the exam is objective or essay, or both. If the exam is objective, find out if all questions will be multiple choice or if some will be true/false, matching, or completion. The more you know, the better you can prepare.

You also need to know how many questions will be on the exam. If you have 100 questions on four chapters, you can expect about twenty-five questions on each chapter. On the other hand, if you have only twenty questions on the same four chapters, you'll have only five questions per chapter. The more questions you have from each chapter, the greater the probability that they'll cover not only main ideas but many of the details from the chapters and from your notes. If there are only a few questions from each chapter, they're more likely to cover the main ideas or concepts. However, you can't depend on this. Some professors who ask only three or four questions per chapter still test on "picky little things." And, don't forget: a single essay question can cover a great deal of material.

Levels of Questions

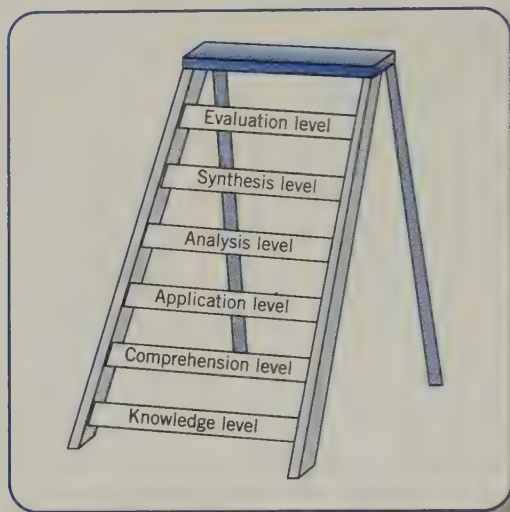
Many college students don't realize that professors test their understanding of the material at different levels. Although most of the questions on your high school tests depended only on your ability to memorize, six different levels of questions are often found on college exams (see Figure 10.1). A description of each follows:

1. **Knowledge-level questions** require only rote memory; they're the easiest type of question to answer. They include remembering terms, facts, dates, lists, and so on. To answer this type of question, you need only to recognize the information as it was written in the text or spoken in the lecture.¹

¹Based on Bloom's Taxonomy in B. S. Bloom, Ed., *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook 1. Cognitive Domain* (New York: McKay, 1956).

FIGURE 10.1

Levels of Questions



2. **Comprehension-level questions** require you to understand the material well enough to be able to identify the answer even when it's phrased differently from the way you read or heard it. To answer a comprehension-level question, you need to check its meaning carefully against what you learned.
3. **Application-level questions** require you to apply the information that you learned to a new situation. Application questions are common in math and science courses, but they may appear on any exam.
4. **Analysis-level questions** require you to break down a complex concept into its components or parts. Many essay questions involve analysis.
5. **Synthesis-level questions** require you to bring information together into a single unit or whole. Many essay questions involve synthesis.
6. **Evaluation-level questions** require you to make judgments about the value or worth of an idea. In most cases, both analysis and synthesis are required to answer an evaluation-level question. They are the most difficult type of question to answer and require the highest-level thinking skills.

Learn About Yourself

As you decide which strategies to use to prepare for an exam, you should also consider how you learn best. Which study strategies have worked well for you in the past? Which haven't? Do you prefer to study with a group or on your own? Although some students find that studying in a group is a distraction, many students actually benefit from working in groups. A good compromise is to study on your own first and then get together with a group of classmates so that you can take turns

quizzing each other on the material. You may find that others in the group predict test questions you hadn't considered and explain some of the material in a different way than you had.

Get Motivated

Studying for college exams requires a high level of motivation. You can't just do a quick review the night before the exam and expect to learn all of the information. There's just too much material to master. To prepare well for college exams, you'll need to spend more time, put in more effort, and use a variety of active strategies. Think about how you currently prepare for exams. Do you put in a lot of effort when studying? Do you spend enough time preparing for exams? Are you pleased with the grades you've received so far this semester? If you answered "no" to any of these questions, you need to get more motivated. Consider the goals you set for yourself this semester. To achieve them, you need to be highly motivated. Without motivation, you may find that it's easy to put off studying or do as little as possible. Your level of motivation plays an important role in whether you're willing to make the extra effort to be successful. Are you?

USE THE FIVE-DAY STUDY PLAN

The *Five-Day Study Plan* is a well-structured plan that puts into practice what we know about how people learn and remember. It provides you with a mechanism to space your learning over a period of days, divide the material so that you can work on it in small chunks, use active learning strategies to study the material, and use self-testing strategies to monitor your learning. Many students who have used this plan have reported dramatic improvement in their grades from one exam to the next.

Increase Your Study Time

One reason many new college students get poor grades on exams is that they don't put in enough time studying. How much time do you think you should spend studying for a four-chapter exam? How much time did you study for your last exam? Many students study about one to three hours the night before the exam. Compared with the time they put in on high school exams, this seems like a lot. Remember, though, that college exams may cover ten to twenty times more information than high school tests. You need to spend eight to ten hours studying to get an A or B on a college exam. Of course, this is only a general guideline. Some students constantly review material (daily and weekly) so that they don't need to put

in quite as much time just before the exam. Other students may need to study even more. If you're taking a very challenging class such as Anatomy and Physiology or Organic Chemistry, you may need to double or even triple the suggested study time. As you'll see later in the chapter, it's not just the amount of time that makes the difference in your mastery of the material; it's also what you do with that time.

Space Your Study

If you're trying to figure out when you can find time to study eight to ten hours for one exam, don't panic. You don't need or really want to put in all of your study time on one day. It's much more effective to study over several days than to cram one day before an exam. Research studies have demonstrated that you learn better by spacing out your study over time. Instead of trying to study for ten hours the night before an exam, try studying for two hours each day for five days before the exam (Figure 10.2). If you need to put in more time, add more time to each day's study session, or add more days to your study plan.

To set up your study plan, count backward from your exam date to decide when you should begin to study. To get in five days of study before a Friday exam, you would need to start studying on Sunday. When would you begin to study for a Monday exam? If you said Wednesday, you're right. If you said Tuesday, you could still be right. This is

FIGURE 10.2

Framework for the
Five-Day Study Plan

Tuesday		
Prepare	CH 1	2 hrs
Wednesday		
Prepare	CH 2	2 hrs
Review	CH 1	30 min
Thursday		
Prepare	CH 3	2 hrs
Review	CH 2	30 min
Review	CH 1	15 min
Friday		
Prepare	CH 4	1 ½ hrs
Review	CH 3	30 min
Review	CH 2	15 min
Review	CH 1	10 min
Sunday		
Review	CH 4	30 min
Review	CH 3	20 min
Review	CH 2	10 min
Review	CH 1	10 min
Self-test		1 hr

a flexible plan. If you work—or even if you party—on Saturdays, you can still use this plan. Just count back one more day to make up for the day that you decide to omit. However, it is imperative to do a final review the day right before the exam. If you find that you don't remember or haven't learned some of the material, you'll still have time to work on it. You may find it helpful, though, to do an “extra” review the day of the exam. Remember, we forget rapidly.

Divide the Material

The next step is to divide the material into manageable units. Instead of trying to study and learn all of the information in one day, work on one or two chapters each day—you'll be more motivated to work hard and use active strategies. Make a list of the chapters, lecture topics, and outside readings that will be covered on the exam. Then group or chunk them so that you study the lectures and readings covering the same topic at the same time. If your professor gave three lectures that related to the material in Chapter 1, you should study those lecture notes at the same time that you study Chapter 1 of the text. If your exam will cover four chapters, you can divide the material into four chunks, preparing one chapter per day and then conducting a final review on the last day. How would you divide the material if your exam covered only two chapters? You could prepare the first half of Chapter 1 on day 1, the second half of Chapter 1 on day 2, and so on. If you only had three chapters on the exam, you could use a four-day plan instead, or you could divide the oldest (or most difficult) chapter in half and use a five-day plan. Studying for only three days, however, isn't a good plan. You wouldn't have enough opportunities to practice the material (you wouldn't get enough repetition) or monitor your learning. If your exam covered five chapters, you could add a day. However, using more than a six-day plan may create several problems. First, you might get bored or tired of studying if you try to use too long a study plan. Also, if you begin to study too early, you might forget too much of the information before the exam.

When you set up your Five-Day Study Plan, be sure to start with the oldest chapter first. When you look carefully at the framework of the Five-Day Study Plan, you'll notice that the oldest chapters are given the most preparation time and the most review time. You need to spend more time on the old material because it's not as fresh in your mind. Even though you may have read it, marked it, and even taken notes on it, much of that material may seem new to you when you begin to review.

Figure 10.2 shows the basic framework for the Five-Day Study Plan. As you can see, you're preparing a chapter each of the first four days and reviewing those chapters on days two through five. Dividing the material over five days and working on one chapter each day appears to be a good way to space out your study. However, *spaced study* actually refers to working on the same material over a period of days. So, it is actually through preparing the chapter one day and then reviewing that same chapter (text and lecture material) over additional days that provides you with the benefits of spaced study.

Modify the Plan

Look again at the framework in Figure 10.2. You may have noticed that only 1½ hours is planned for preparing the material for Chapter 4 because it's the most recent chapter. You may find that because the material is more familiar, you won't need quite as much time to prepare and review it. Modify the plan to better meet your own needs. If you've already written questions in the margin of your text and your lecture notes, you've already completed two preparation strategies and may require less time to prepare that section of text. If you've been making word cards for the technical terminology as you've read each chapter, you won't need as much time to prepare the chapters. By completing some preparation strategies in advance, you can reduce the total time it takes you to study for an exam. You could use that time instead to select different preparation strategies or spend additional time reviewing (by self-testing) the cards or questions you already prepared.

Plan Active Study Tasks

The Five-Day Study Plan includes both time to prepare a chapter and time to review that chapter several times before the exam. (Remember that “CH 1” means the text chapter, the lecture notes, and any other related material.) The Five-Day Study Plan is a task-oriented plan. In many ways, it's like creating a “To Do” list for your study plan.

If you've been rereading your text and lecture notes for hours before an exam and are still not getting the grades you want, you need a new approach. Unlike reading over the material, writing and reciting strategies are excellent ways of putting information into long-term memory. In Figure 10.3 you can see some suggested preparation and review tasks for Wednesday and Thursday, the second and third days of this Five-Day Study Plan. To prepare well for an exam, you need to select a variety of active preparation and active review strategies.

Use Active Preparation Strategies

Preparation strategies help you gather information and put it into a format that is easier to learn and remember. When you use preparation strategies, you identify what you need to learn, condense it, organize it, and write it. You can use the mnemonic ICOW to help you remember the role of preparation strategies. You may have noticed that preparation strategies are primarily writing strategies. Use at least three different preparation strategies so that you can work on the material in different ways. You need to learn some of the material in an isolated way and some of the material in an integrated way. Writing questions in the margin of your text and/or lecture notes, or making word and/or question cards to learn key terms, facts, and details, are good preparation strategies that lead to *isolated learning*—learning the answers to specific questions or definitions for specific terms. To prepare well for exams, though, you should also include at least one integrated study strategy in your

FIGURE 10.3

Actual Tasks for
the Five-Day Study
Plan

Wednesday**Prepare CH 2**

1. Re-mark highlighting or take notes
2. Make study sheets
3. Make word cards
4. Predict test questions

Review CH 1

1. Recite text and/or lecture notes; mark information you don't know
2. Mark and recite study sheets
3. Recite word cards
4. Recite answers to questions

Thursday**Prepare CH 3**

1. Re-mark highlighting or take notes
2. Make study sheets
3. Make word cards
4. Predict test questions

Review CH 2

1. Recite text and/or lecture notes; mark information you don't know
2. Mark and recite study sheets
3. Recite word cards
4. Recite answers to questions

Review CH 1

1. Make a list of information still not known from text or study sheets—recite
2. Recite cards and questions still not known
3. Make self-test questions

plan. Taking notes, making study sheets, and planning possible essay answers lead to *integrated learning*—learning information in a connected way. As you gather and organize the information on one topic or one question, you form many additional associations with the material. This helps you create additional cues to long-term memory, which makes it easier to retrieve the information during the exam.

Use Active Review Strategies

During the review stage, you need to practice the material that you prepared each day in your study plan. *Review strategies* are mainly recitation strategies that help you practice the information and self-test to monitor your learning. Review strategies help you rehearse, extend, understand, self-test, and evaluate your learning. You can use the mnemonic RE-USE to remember the role of review strategies. It's important to do your reviews in the form of a self-test. When you recite the answers to your predicted test questions, the definitions on your word cards, or the details on your study sheets, for example, that you prepared the previous day, you are monitoring your learning. At the same time, you can continue working on the material (often making connections and forming additional cues), gain a better understanding of it, and keep it fresh

in long-term memory. Each day, as you review, you can also identify the material you still don't know—the material that you'll need to work on again the next day.

Because you'll be reviewing some of the material three or four times, it's also a good idea to vary your review strategies. Although you should use the same three or four strategies to prepare each chapter and to review each chapter the first time, you need to select different strategies to review the chapter the second, third, and fourth time. By working on the material in different ways, you can create more new connections to it, form more cues, and practice self-testing (retrieval) with a variety of cues.

Many students find that they don't learn the course material until they've worked on it several times. Each time you review, you can also test your mastery of the material to find out what you do know and what you don't know. If you can't recite the main points in the study sheets you prepared the previous day, you didn't really get that information into long-term memory. However, it's better to find that out early in your plan (instead of during the exam) because you'll still have time to work on it.

Figure 10.3 lists just a few examples of tasks that you could use to study for an exam. The menu of active preparation and review strategies includes many other excellent strategies you can use in your study plan (Figure 10.4). You also may develop some excellent strategies of your own. Varying the activities you use when you study can keep you from feeling bored. You also may discover that many of these active strategies are fun and make learning more interesting.

Self-Test to Monitor Your Learning

One reason the Five-Day Study Plan is so effective is its built-in self-testing. As you review the old material each day, you should be testing your mastery of it. If you can't say it out loud or write it from memory, you don't really know it. Each time you quiz yourself with your flash cards or practice the main points in your essay answer, you're checking to see what you do know and what you don't know. Although you may be disappointed if you don't get all the answers to your question cards right the first time you review them, you will get some right. That tells you that you are learning the material and lets you know the strategies you're using are working. That can motivate you to keep practicing until you know them all.

USE ACTIVE STUDY STRATEGIES

In this section, you'll learn about a variety of active study strategies. Some of the strategies lend themselves to the preparation stage and others to the review stage. You can't use all of these strategies to study for one exam; there are just too many of them. What you should do, however, is try each of them as you prepare for different exams. You probably will find that some strategies work better for you than others. You also may find that certain strategies work well for one type of exam or course material but others are better for a different course or exam.

FIGURE 10.4Menu of Active
Study Tasks**PREPARATION STRATEGIES**

develop study sheets
 develop concept maps
 make word cards
 make question cards
 make formula cards
 make problem cards
 make self-tests
 do study guides
 re-mark text material
 do problems
 outline
 take notes
 predict questions in the
 margin
 chart related material
 list steps in the process
 predict essay questions
 plan essay answers
 write essay answers
 answer end-of-chapter
 questions
 prepare material for study
 group

REVIEW STRATEGIES

recite study sheets
 replicate concept maps
 recite word cards
 recite question cards
 practice writing formulas
 work problems
 take self-tests
 practice study guide info out loud
 take notes on re-marked text
 make a list of 20 (30 or 40)
 recite list of 20 (30 or 40)
 do "missed" problems
 recite main points from outline
 recite notes from recall cues
 recite out loud
 recreate chart from memory
 recite steps from memory
 answer essay questions
 practice reciting main points
 write essay answers from
 memory
 recite answers
 explain material to group members

Figure 10.5 includes many of the active study strategies that are discussed in the remainder of this chapter. Notice how each of the study tools can be used in both the preparation and the review stages. As you read about these strategies, think about which ones you would use to prepare for exams in each of your courses this semester.

Condense Your Text and Notes

A good way to start preparing for an exam is to read through your text and lecture notes and condense the material that you'll need to review again. Think about what you do know and what you don't know. It certainly is possible that after several weeks of class, some information in the early chapters will be "old hat." You may not have to spend any more time on it at all. As you reread your highlighted text

FIGURE 10.5 Effective Study Tools and Strategies for the Five-Day Study Plan

STUDY TOOL	PREPARATION STRATEGY	REVIEW STRATEGY*
Highlighting	Re-mark text and star unknowns	Recite main points out loud
Text notes	Dig through text and write main points and supporting details; develop recall column	Recite information, identifying connections among ideas from headings and/or recall columns
Predicted questions in the margin	Predict questions and underline the answers	Recite the answers out loud
Concept maps	Design and draw maps	Sketch from memory or recite key points
Charts	Create charts	Recreate charts from memory on scrap paper
Geographic maps	Prepare copy of map without answers for self-test	Recite and/or write out answers; check original
Study sheets	Dig through text and lecture notes to select, condense, and organize material under main topics	Practice reciting out loud or in writing
End-of-chapter questions	Write out answers	Practice reciting answers
Word cards, question cards, formula cards, problem cards	Select information and write out cards	Recite out loud or in writing; shuffle cards and retest; test in reverse; retest missed items
Study groups	Prepare materials as agreed to by group	Explain your material to group and take notes on others' explanations; discuss
Self-tests	Select information and construct test	Take test in writing and/or recite out loud—retest
Predict essay questions	Predict specific essay questions; plan and prepare answers	Practice reciting main points and writing out answers
List of 20, 30, or 40+	Determine content and write out list	Recite out loud and write out troubling items

*Goal for review strategies is to recite and write out material from memory.

Source: Adapted from chart developed by Patricia Luberto. Used with permission.

material, take notes, create questions, prepare study sheets, and/or write word cards on the material.

Identify the important information in your lecture notes as you reread them, too. You can condense them just as you did your text material. However, this is just the first step in learning the material. Remember, you need to write and recite to get the information into long-term memory—to learn it at the recall level of learning. *Recall-level learning* allows you to recall information without any additional cues.

If you took notes as you read or after you marked, you should review your text notes and mark them as your first step. However, if your professor tends to ask picky questions on small details, you may benefit from one quick rereading of your highlighting. This can be especially helpful in a multiple-choice test. To answer some multiple-choice questions correctly, you often can rely on *recognition-level learning*. That means you don't need to recall the actual answer; you need only to recognize it from among the answers listed on the exam. If you've recently read that material, the answer may stand out or seem familiar to you. However, many professors rephrase the information on multiple-choice tests, so you may not be able to recognize the correct answer. Of course, if your exam is of the completion, short-answer, or essay design, that quick rereading won't be very helpful because you'll have to supply the answers from memory. You'll need to know the information at the recall-level of learning.

Prepare Word Cards

Think back to the last objective exam that you took. How many of the questions on the exam required you to know the meaning of a technical term? You may have been surprised to find a technical term somewhere in the question or in at least one of the possible answers. Although you may not have to write out the definitions for an exam, you're expected to know the meanings of those terms to answer many of the questions on the exam. *Word cards* are index cards that have a technical term (or key word) on the front of the card and a definition on the back. They can be used for learning definitions or for learning the significance of people, places, dates, and events.

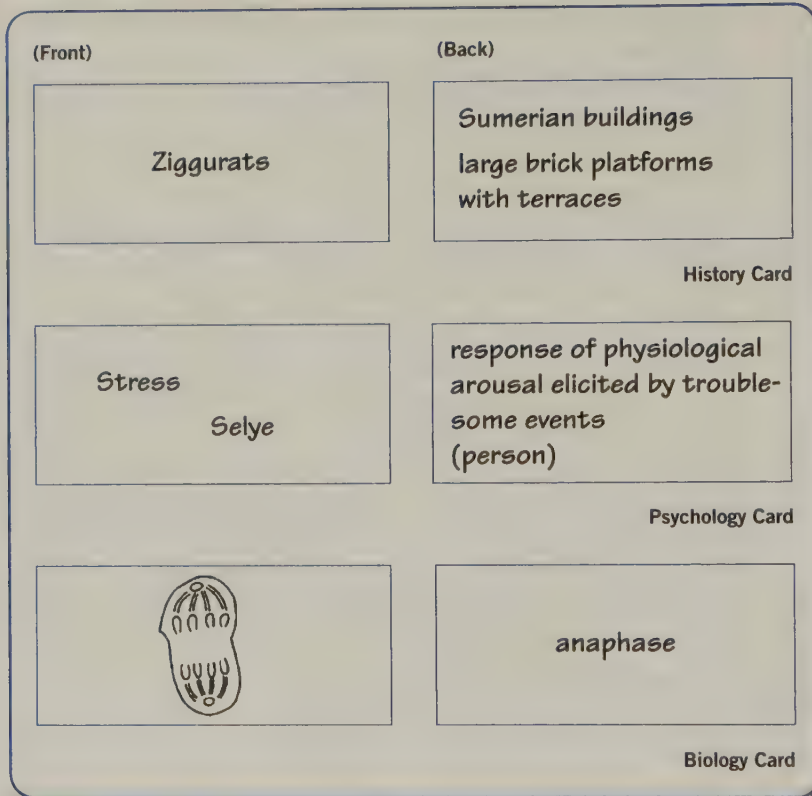
Going through the chapter and making word cards gets you actively involved with the material. Just the process of writing definitions helps you learn them. Put the word on the front of a three-by-five card; then write a brief definition or identification on the back. Put only one word on a card. You want to use them like flash cards, so they shouldn't be cluttered with information. If you're trying to save money, cut your cards in half or create them on the computer.

Use Word Cards for Any Subject

You can make word cards for just about any subject. If you're in a psychology class, you may have forty or fifty technical terms for just one chapter. In addition, you

FIGURE 10.6

Examples of Word Cards



may want to make cards on famous psychologists and their work, theories, or even research studies your professor emphasized. In history, put people, dates, events, treaties, or anything else you need to learn on the cards. Make formula cards for math and science classes. Put the formula on one side and the name of the formula or when it's used on the other side. Of course, word cards are a great way to learn foreign-language vocabulary terms. Some students even put diagrams or sketches of things that they'll have to identify on the front of the card and the explanations on the back. Look at the examples of word cards from history, biology, and psychology in Figure 10.6. Word cards are easy to make, and they're quite effective in getting information into long-term memory.

Make Word Cards Early

If you need to make as many as fifty word cards for just one chapter, you may find that this activity takes up most of your preparation time. In that case, you should make your cards before you begin to study. Some students make word cards even before they read a chapter for the first time. Making word cards provides you with an excellent preview before reading and allows you plenty of time to learn all of the definitions. You can also make your cards as you read the chapter. If you wait

until after you've read the chapter and attended the lecture, you'll have a better understanding of the material and may find that making word cards provides you with a good review.

Practice Your Word Cards

After you make your word cards, you need to practice them to learn them. Although you'll learn some of them just from writing them out, you won't learn all of them that way. Study them by practicing ten or fifteen at a time. Carry them around with you and recite or mumble them whenever you have a few minutes to spare. After you know that group, start on the next pack of fifteen.

Hold the stack of cards in your hand and look at the first term. Try to recite the definition out loud. Turn the card over to check your answer. If you were right, set that card aside. If you couldn't think of the answer or were not completely correct, read the definition out loud. Then put that card on the bottom of the pile. Continue practicing the cards until you have none left in your hand. After you know all the terms, shuffle the cards to check your learning. Sometimes you remember the definition of one word because you got a clue to it from the previous term. Although it's good to learn information in chunks, sometimes you need to separate closely related information to make sure that you can distinguish among similar terms.

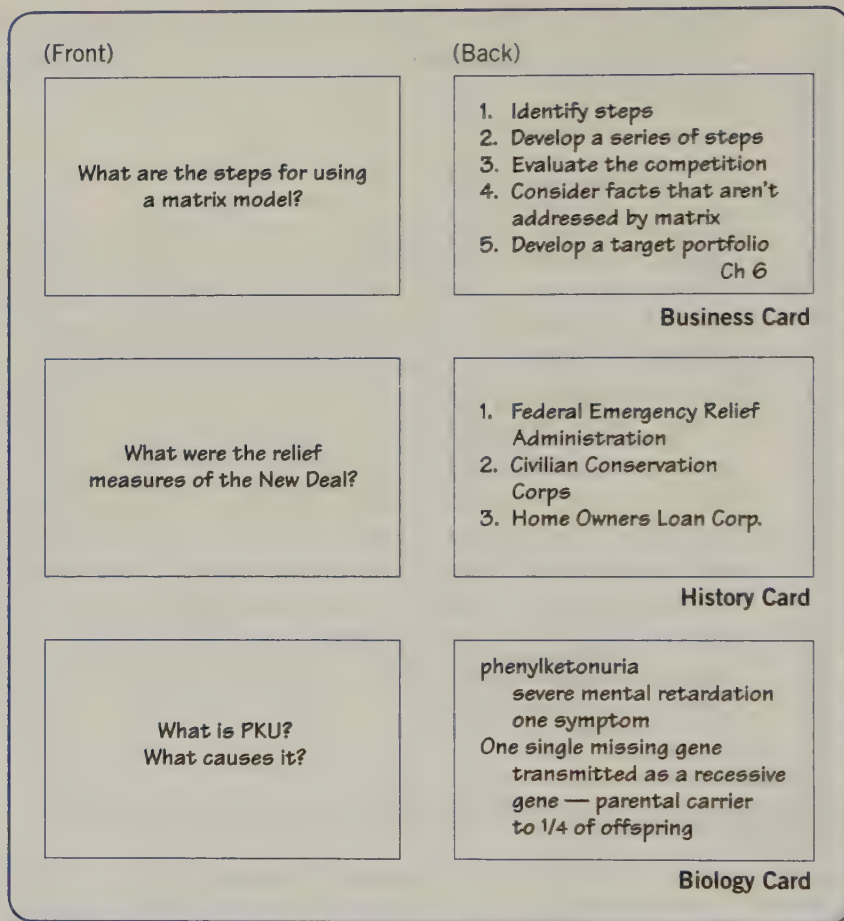
Make Question Cards

Making *question cards* is another active strategy for preparing for exams. Rather than focusing on terms, names, dates, and events, dig through your text and lecture notes and write questions on all types of information. If you already wrote questions in the margin of your text or lecture notes, you can write different questions on cards (or put the ones you keep getting wrong on cards). The practice you get from writing out the questions and answers may help you learn some of the information.

You can make question cards on any type of information. Write the question on the front of the card and the answer on the back. Make twenty-five to fifty per chapter. If you already have prepared a stack of word cards for the chapter, concentrate on different information for your question cards. Focus on lists, how things relate, or how they differ. The sample question cards for business, history, and biology in Figure 10.7 emphasize steps in a process, lists of things, and causes and effects.

Practice Your Question Cards

Use your question cards as you would flash cards. Practice answering the questions aloud until you know them all. Question cards are especially useful if you work

FIGURE 10.7Sample Question
Cards

in groups or with a study partner. If each of you makes a stack of question cards on each of the chapters, you'll cover more material. Although you may have some questions on the same information, each of you may approach it in a different way, creating more cues to aid memory. This can be helpful when preparing for the exam because you can test your learning in several ways. Your question cards are another form of a self-test: Use them to quiz yourself or others in your study group. Each time you recite the answer, you're prompting your memory for the information—you're practicing retrieval.

Make Math and Science Problem Cards

Students who are taking math and science classes will benefit from using a special type of question card. If you have to solve problems on your exams, you may find that making problem cards is essential to getting a good grade. Have you ever started a math, chemistry, or physics problem on an exam and realized you weren't sure

which kind of problem it was? Even though you knew how to do all of the problems when you reviewed, their random order on the exam may have left you confused.

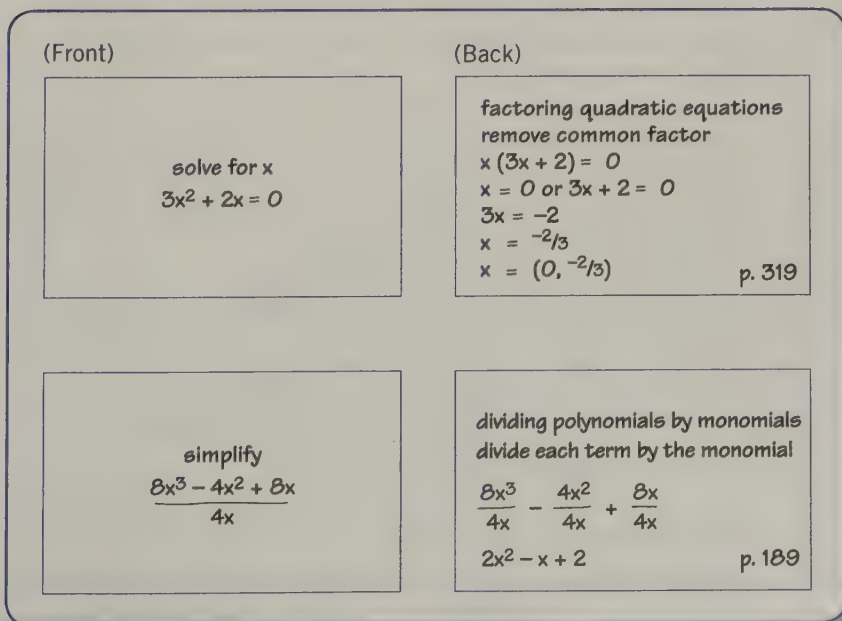
One problem with reviewing for problem-related tests is that you tend to review within the context of the book. If you were going to have an algebra exam, for example, you probably would review the information in the first section of the chapter and then do some of the sample problems. Then you might review the next section and do some of those problems. The trouble, though, is that you always know what type of problem you're doing because you pick up clues from the section of the text in which you're working. You need to learn to recognize the special features of each problem so that you'll be able to identify the problems when they appear in a different order on an exam. One way to do this is by creating your own test bank.

Create Your Own Test Bank

A test bank is a series of sample problems written on cards. After you've studied for the exam, put three of each kind of problem on the front of an index card (one problem per card). You could select one easy, one average, and one difficult problem from the homework for each section. Don't put any other information on the front of the card; you don't want to give yourself any clues that won't be on the exam. Then, on the back of the card, write four things (see Figure 10.8). First, at the top of the card, identify the type of problem. After that, write the first step that you need to take to solve the problem. Then write the answer or solution on the card. Finally, in the bottom corner, write the page number where you got the problem or where you can go for help.

FIGURE 10.8

Sample Math
Problem Cards



Practice Your Problem Cards

After you've prepared all of your cards, shuffle them. Go through the cards orally a few times. Try to identify each problem and the first step needed to solve it. Check the answer on the back. If you're wrong, look at the problem and try to determine a way to remember which type of problem it is. Don't try to memorize the solution and page number; they're only for reference. If you've prepared well, you should be able to solve the problem once you identify its type. Next, test yourself by solving the problems on paper. Shuffle your cards and work each problem as though it were a test question. Turn the card over and check your work. Continue until you can do all of the problems. Problem cards can serve as a self-test before the exam and can serve as models when you're taking the exam.

Create Study Sheets

Developing study sheets is one of the best ways to prepare for an exam. A *study sheet* is a one-page compilation (a synthesis) of all the important information on one specific topic. The sample study sheet on Mesopotamia in Figure 10.9 is the first of four study sheets prepared for the first chapter of a Western Civilization exam.

How to Make Study Sheets

It's easy to make study sheets. Put a specific topic at the top of a sheet of paper (or on your laptop) and go through your text and lecture notes looking for all of the important information about that topic. Then combine the information in an organized manner. Creating a set of study sheets requires you to identify, condense, organize, write, and integrate the important information from both the text and your lecture notes.

How many study sheets you prepare depends a lot on how you organize or divide the information you need to learn. If you're preparing for a history exam, for example, you can make a study sheet on each main topic that was covered in lecture or each main subdivision of the chapter. You might have three study sheets for one chapter, or you could have six or seven.

When you create study sheets, include both the material you already know and the material you need to learn. The previously learned information will help you learn and remember the new information because it will serve as a hook or cue to help you store and retrieve the new information. Study sheets allow you to work on information using high-level rehearsal strategies combined with organizational and elaboration strategies.

Advantages of Study Sheets

The main advantage of study sheets is that they allow you to study and learn information in an integrated or connected way. Study sheets help you gather and

FIGURE 10.9Sample Study
Sheet

	Mesopotamia
	I. Sumer (3500–2350 BC)
	agricultural settlements T & E valley formed towns
	first system of writing
	(signs on clay tablets – cuneiform)
	led to trade → cities
	center of life – temple
	religion – seasons – fertility Great Mother
	ex. Lady of Warka
	govern – priests
	<u>Epic of Gilgamesh</u> (most famous ruler) fiction
	pessimistic (life struggle against disaster –
	no afterlife)
	1. quest — human is a questioner (ultimacy)
	2. death — pos & neg moments
	3. story — human is a mythmaker
	II. Akkad
	Semitic King Sargon ruled (2350 to 2150)
	art – bronze head of Nineveh
	Stele of Naram – Sim
	buildings – ziggurats

organize the information on a specific topic, which helps you learn and recall the information more easily. As you'll see later, you can use written formats, maps, or charts. If you're using an outline or modified-block format, it's important to include headings and subheadings in your study sheet. The headings help you break up the information into manageable units and serve as cues to help you learn and remember the main points and details. You're building layers of cues to aid your memory. Learning information in an integrated or connected way helps you prepare well for both objective and essay exams.

Study sheets also provide concise summaries of the information. They give you a quick way to review as you progress through your Five-Day Study Plan, are a great resource for open book exams, and are useful when you prepare for comprehensive finals. After you prepare your study sheets, use them to review the important information by reciting the information or writing it. If you have a lot of information on a study sheet, focus on the main headings first. Once you know the headings, use them as cues to help you recall the details.

FIGURE 10.10

Angela's Study Sheet

TYPES OF TERRESTRIAL BIOMES	DEFINITION	CLIMATE	TYPES OF PLANTS	TYPES OF ANIMALS
TUNDRA	A biome found in polar regions and characterized by permafrost and a brief summer.	<ul style="list-style-type: none"> – average monthly temp – 10°C – winter is a way of life – summers are short and cool 	<ul style="list-style-type: none"> – sphagnum mosses – lichens – herbs, grasses, flowers 	<ul style="list-style-type: none"> – arctic hares – lemmings – arctic foxes – snowy owls – arctic wolves – polar bears
TAIGA	A biome characterized by harsh winters, warmer summers, and a diverse array of plants.	<ul style="list-style-type: none"> – similar to tundra but summers are warmer – temperatures fluctuate wildly 	<ul style="list-style-type: none"> – evergreens: spruce, fir, pine, and larch – deciduous trees: beech, aspen, willow, and ash 	<ul style="list-style-type: none"> – rodents, rabbits, moose, elk, deer – weasel, mink, lynx, wolves, bears – birds: eagles, falcons, buzzards, ducks
TEMPERATE FOREST	A biome found in the middle latitudes with rich soil and ample rainfall.	<ul style="list-style-type: none"> – mild winters – year-round rainfall 	<ul style="list-style-type: none"> – shrubs, herbs – douglas fir – oak, hickory 	<ul style="list-style-type: none"> – deer, boar, foxes, wildcats, martens, lynx, elk, moose, caribou – birds

Use Different Formats

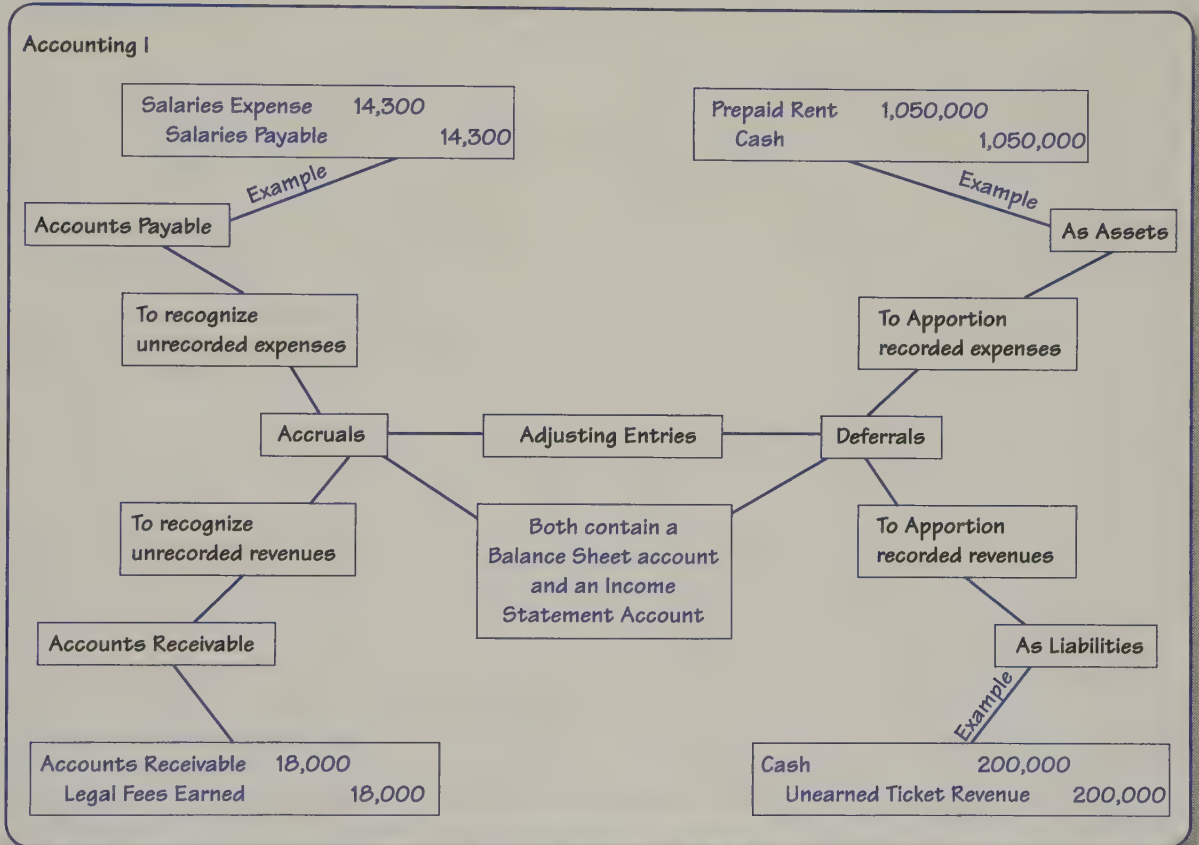
You can use different formats when designing your study sheets. You may use a written format, a chart (or matrix) format, or even a map format. Look at the study sheets that Angela and Juanita prepared to study for their exams (Figures 10.10 and 10.11). Angela worked directly from her text and lecture notes to prepare a chart on the material. Juanita combined information from her text and her lecture notes when she prepared a Semantic Web for an accounting class in Figure 10.11. She used the text to help organize her map and then used information from her notes to fill in the details. Which method do you like better? If you already have been using one or more of these techniques for taking notes, you'll find that it doesn't take long to prepare your study sheets.

Create Self-Tests

Creating *self-tests*—writing the actual test items—is another active way to prepare for an exam. To make a self-test, you have to decide what information will be on the exam and then formulate questions about it. Although word and question cards are a form of self-test, you may find it helpful to write out actual test questions in the format in which they will appear on the exam.

FIGURE 10.11

Juanita's Study Map



Note: Blue represents information taken from lecture notes.

Use the Same Type of Questions

You can benefit more from your self-tests if they're composed of the same types of questions that will be on the exam. For example, if you're going to have a psychology exam that's composed of fifty multiple-choice questions, you may be able to improve your score by writing multiple-choice test items rather than completion items. One advantage of actually making up multiple-choice items is that you have to generate three or four wrong answers in addition to the right answer. This can help you improve your score on the exam because you're learning to distinguish between the correct answer and several possible but incorrect answers. In a sense you're predicting the incorrect answers that your professor may use. If you choose the same ones that are on the actual exam, you'll be able to eliminate them immediately.

When you write questions in the margin or make word or question cards, the answers are often made up of the exact words from your text or lecture notes. Because

of that, they only test your learning at the knowledge level. If you write questions only at the knowledge level, you may not be able to answer higher-level questions on your exam. That may explain why you may have felt well prepared for an exam but couldn't answer some of the questions. If you have to answer comprehension- or application-level questions on an exam, you should try to write questions at that level for your self-test. Writing higher-level questions does require more time and effort than writing knowledge-level questions, but it will better prepare you for the types of questions that you'll actually have to answer.

In the same way, writing your own true/false items can help you tune in to key words that can be used or changed to make a statement false. Making up matching tests helps you make fine distinctions among terms, concepts, people, and so on. If you'll have to answer essay questions, you need to prepare by predicting possible essay questions and practicing the answers. A detailed discussion of how to prepare for essay exams will follow in Chapter 12.

Use Your Self-Test to Monitor Your Learning

One benefit of making self-tests is that you can use them over and over again to monitor your knowledge of the information. Write the answers on another sheet of paper or on the back of your self-test. Self-testing gives you a feeling of accomplishment—it makes you feel like all the hard work is paying off. That motivates you to keep working and increases your self-efficacy. You also will find that as you test your learning, you won't know some of the material. Identifying what you still don't know allows you to focus your efforts the next day on that material. Self-testing also allows you to practice retrieving information from your long-term memory. Since that's exactly what you'll have to do on the exam, the retrieval practice better prepares you for it. According to Halpern and Hakel, "The single most important variable in promoting long-term retention and transfer is practice at retrieval."² Finally, taking a self-test on the last day of your study plan can help reduce any anxiety that you may be feeling about the exam. After all, if you take your test and do well, you'll know that you know the material.

Use Recitation Strategies

If you've been practicing your word cards or question cards, you've probably discovered that reciting is one of the best ways to get information into long-term memory. If you like using recitation strategies, there are a number of them that you can try. First, practice using the headings in your notes, text, or study sheets as cues in order to learn the details. Cover the information with your hand, or look away, and then try to recite the details out loud or mumble them. Take your hand away and check to see how many of the details you got right. Continue practicing until

²Diane Halpern and Milton Hakel, "Applying the Science of Learning," *Change* (July/August 2003): 36–41.

TIP**More Active Study Strategies**

- Prepare review cards.** In some classes, students are permitted to take one index card to the exam with anything on it they wish. Even if you aren't permitted to do so, creating a review card may be an excellent final review strategy. To create your review card, you'll need to identify the most critical information or information that you still don't know. Writing the information on the card is an active way to review for your exam.
- Turn diagrams into a self-test.** Photocopy or trace any important diagrams that may be on the exam and label them with numbers instead of names. Use them to test your learning by reciting or writing, for example, the actual names of the bones, structures, or muscles. Use the labeled version as your answer key.
- Form study groups.** Many students like working in groups. Find students in your classes who are interested in working together to prepare for exams. But rather than getting together just before the exam, work as a team throughout the semester. Share notes, word and question cards, study sheets, and self-tests. Then take turns quizzing each other.
- Make a list of 20, 30, 40 or more.** Make a list of the twenty to forty (or more) most important things that you think will be on the exam. It's important to list the actual information, not just the topic. Use this list just before the exam as a final review and a way to focus your concentration. After the exam, check to see how many of the items on your list were on the exam.
- Use study guides correctly.** Some professors give students a study guide before an exam. Rather than just looking over the list of terms or ideas and trying to write a word or two on the paper, take each technical term, name, or concept and put it on the front of an index card. Then refer to your text and/or your lecture notes and jot down as much information about it as you can on the back of the card. If there is a large amount of information about that term, use it as the topic for one of your study sheets.
- Use old exams as a resource.** Use copies of old exams, which are often available in the library or your college learning center, to get more information about what the exam will be like. You can get an idea about the kinds of questions the professor uses, the topics that were emphasized, and the level of detail of questions. If the exams closely parallel your current material, take them for extra practice.
- Take online quizzes and tests.** Take online quizzes and tests as a way of monitoring your learning. Many of your textbooks now have websites that contain quiz and test questions for practice. Your professor may also post test questions on Blackboard, Course Web, or similar sites. Be sure to make up your own questions, too, as online tests don't cover all of the information.
- Get your family and friends involved.** Your family and friends can be a great resource as you prepare for exams. Teach the material to your friends, parents, or older children. Ask someone to quiz you with the word cards or question cards, questions in the margin, or self-tests that you prepared.

you can recite all of the details using the headings as cues. Use the same strategy with the questions in the margin of your text and lecture notes. Seeing, saying, and hearing the information help you put it into long-term memory.

Teaching the information to someone else is another effective recitation strategy. If you're lucky enough to have a friend or relative who is willing to be your "guinea pig," you can take on the role of professor and explain everything you know about the subject. One advantage of teaching the material to someone or something else—a dog, a plant, or even a stuffed animal—is that you tend to rephrase the information in your own words, which helps you learn it, too. Explaining the material out loud helps you clarify the information for yourself. Sit with your book and notes open and pretend that you're trying to explain the information to someone who doesn't understand it. Pretend that someone asks you a question about a particular topic, and answer it.

If you're being tutored or are part of a study group, remember one thing: The person who does the talking is the one who does the learning. Just listening to someone explain something is a passive activity. When I was taking statistics in college, I walked to and from the parking lot with another classmate. I asked questions about something we had just covered, and he explained it to me. He then asked if I understood, and I always said, "Yes," but I wasn't always sure I did understand. Finally, one day I stopped my friend in the middle of explaining something and said, "Wait a minute. Let me explain it to you. If I make a mistake, stop me." After that, I did the explaining. I found that I truly understood the information because I had to put it into my own words.

EVALUATE YOUR PREPARATION

Now that you've experimented with many test-preparation strategies, you need to evaluate their effectiveness. You should monitor both your learning and your strategies as you prepare for the exam and again after the exam.

Evaluate As You Prepare

You can evaluate your study strategies while you're preparing for the exam. Monitor your learning each day of your Five-Day Study Plan. By quizzing yourself on the previously prepared and reviewed material the next day, you have an opportunity to test your learning. By reciting, writing, or taking self-tests, you can find out what you do know and what you don't know—what you need to continue to review. In addition, you can find out how well the strategies you selected are working. If you study your lecture notes by simply reading over them for two hours, you may find that the next day you can't recall the key information. If, on the other

hand, you study your lecture notes by covering the details with your hand and using the headings as a cue, you may find that the next day you can easily answer your recall questions. It's easy to see which strategy works when you monitor your learning each day. Conducting a final review by reciting the definitions on all of your word cards, reciting the answers to all of your questions in the margin (or question cards), or taking online tests or your own self-test are excellent methods of evaluating your study plan.

Evaluate After the Exam

After each exam, you should evaluate your entire study plan. Consider how much time you spent studying, the material you stressed or omitted, and the strategies that you used. If you were well prepared for the exam, you may have found yourself moving through the exam at a steady pace, knowing most of the answers, and thinking to yourself, "I knew this would be on the exam." If, on the other hand, you found yourself moving slowly through the exam, skipping a lot of questions, and asking, "Where did these questions come from?" you probably didn't prepare properly for the exam. When things don't go well during exams, many students tell themselves that they should have studied more (to them that means longer). Sometimes, that's true. You can learn a lot more information in eight hours than you can in four hours. Yet, *how* you spend those hours also has an impact on your grade. Using active study strategies that help you move information into long-term memory and practice retrieving it is key to a good exam grade.

Once your exam is graded and returned, you can make even better decisions about what worked and what didn't. Be sure to look at both the questions that you got right and those that you got wrong. By continuing to use the strategies that do work and replacing the ones that were less successful, you can improve your performance on future exams.

SUMMARY

Preparing for exams requires you to be a strategic learner. If you prepare the same way that you did for high school tests, use the same strategies for all of your courses, or prepare the same way as your friends or classmates do, you may not get the grades you want or deserve. You need to learn as much about the exam as you can, so that you can design your study plan correctly. You may decide to study with a group for a math exam but study alone for your history exam. To earn a good grade, you need to be motivated. Preparing for a college exam takes time, effort, and the right strategies. You should set up a Five-Day Study Plan to organize your study and space out your learning. Divide the material into smaller units so that you can concentrate your effort and incorporate daily reviews. Use active study strategies as you prepare and review each of the chapters or units of material. Taking notes, writing questions in the margin, preparing word cards and question cards, making study sheets, developing

self-tests, and using recitation strategies are just a few of the active strategies that will help you learn the material for your exam. Then self-test each day to monitor your learning and your strategies. You shouldn't study for every exam the same way. Choose the strategies and techniques that you think will work the best for you. Try different strategies for different subjects. Forget about just reading over the material, though; that won't help you remember it for the exam. You must be actively involved with the material to get it into long-term memory—to really learn it. Finally, evaluate your study plan as you prepare and again after the exam.

ACTIVITIES



1. Make a list of strategies successful students use when preparing for exams. Then compare your responses with other members of your group. Select the twenty best exam preparation strategies and create a list. How many of your strategies appeared on the group list?



2. Go back to the list of strategies that you selected in Activity 1 and put a check mark next to each one that you use now. Put a dot next to each one you'd like to use. Why did you select those particular strategies? What's your motivation?



3. Set up a Five-Day Study Plan for an exam that you have coming up in the next few weeks. Decide when you're going to study; then divide up the material into four chunks. Use the overview in Figure 10.1 as a model. Select some active study tasks to add to your study plan from the menu in Figure 10.3, but feel free to create other strategies of your own.



4. Prepare a set of word cards for all the technical terms from one chapter in one of your texts. Practice reviewing the cards using the reciting and writing methods described previously. Then try to write or recite the definitions. How many did you get right? How many times did you need to practice? Which strategy worked best for you?



5. Select two headed sections from one of your texts or from one of the excerpts in this text. Review one section by reading over it a few times. Then review the second section by reciting the information or "teaching" it to one of the other members of your group. Take turns explaining the material with the other members of your group. Did you learn more by reading over the material, listening to someone else explain it, or explaining it to someone else? Which method was more effective in helping you learn the information? Why?



6. Work together to prepare a set of study sheets on the Five-Day Study Plan. Be sure that you combine the information from your text and your lecture notes. Share your study sheets with other members of the class. Did you include the same topics? What changes would you make the next time?



7. Print out the four study plans available on the Web site. What are the strengths and weaknesses in each plan? Jot down your ideas and then discuss your analysis with other members of your group.



8. Go to the Web site and download one copy of Activity 10-5 from the Activities Packet. Evaluate the study plan that you used to prepare for one of your exams.



9. Jackson got a 56 on his first history exam. He was not pleased with the grade and thought he had earned at least a C on the exam. The exam was made up of forty multiple-choice questions and two short essays. He got about half of the multiple-choice questions right but earned only 6 points out of 20 on the essays. What mistakes do you think Jackson may have made in his preparation for the exam? How do you think Jackson should have prepared for the exam? Discuss your responses with the other members of your group.



10. Now that you've completed Chapter 10, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW



Terms You Should Know: Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.



Completion: Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. You should study the _____ chapter on day 1 of the Five-Day Study Plan.
2. You should study for _____ to _____ hours for a college exam.
3. Studying your text and lecture material together is known as _____ study.
4. If you only have two chapters to study for an exam, you should prepare _____ on day 1.
5. The review strategies give you more opportunities for _____ your learning.



Multiple Choice: Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. _____ -level questions require you to understand the information so that you can select the answer even when it is phrased differently on the exam.
 - A. Knowledge
 - B. Comprehension
 - C. Application
 - D. Analysis
7. Which of the following is the best strategy to use as a final review before the exam?
 - A. Read over your study sheets
 - B. Review your lecture notes
 - C. Take a self-test
 - D. Review an old exam

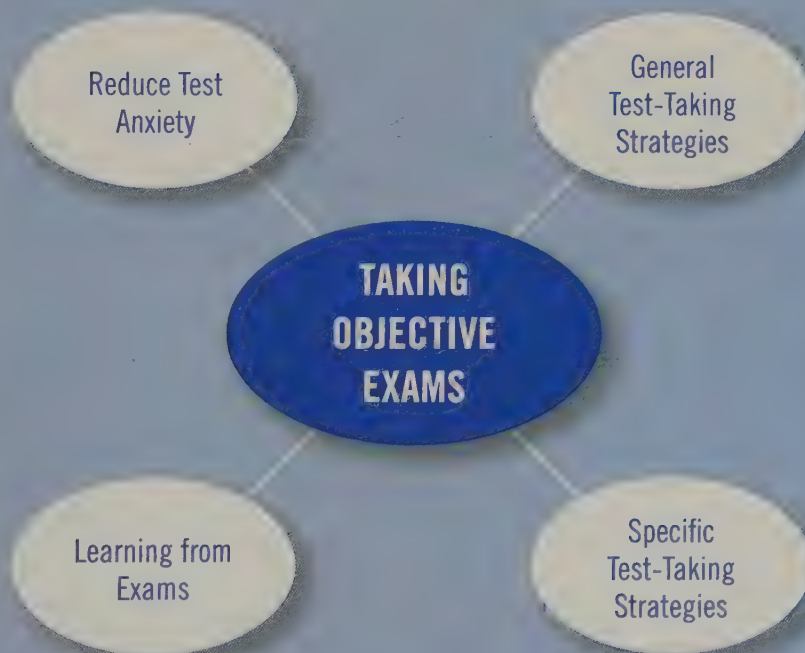
Short Answer/Essay: On a separate sheet, answer each of the following questions.

8. How are preparation strategies and review strategies different?
9. Why do some students have difficulty preparing for exams? What should they do differently?
10. Why is the Five-Day Study Plan so effective?



Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Taking Objective Exams



"Before reading this material, my test-taking skills were not very good. This text has helped me to learn different strategies that have helped me to improve my test grades. Before, I used to do the questions in order and would get frustrated when I didn't know one of the answers. Now I do the ones that I know and come back to the others. Crossing off wrong answers and underlining key words both help me come up with the right answers."

Amanda Fisher, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Absolute words
Alternatives
Balanced answer keys
Debilitating test anxiety
Distractor

Facilitating test anxiety
Pacing
Problem-solving strategies
Qualifying words

Stem
Strategic guessing
Test anxiety
Test-wise strategies

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you always read the directions before you begin to answer the questions on an objective exam?	_____	_____
2. Do you eliminate wrong answers on multiple-choice exams?	_____	_____
3. Does test anxiety interfere with your performance on exams?	_____	_____
4. Do you ever leave blanks on exams?	_____	_____
5. Do you use strategies to help you figure out the correct answer when you're unsure of it?	_____	_____
6. Do you ever run out of time before you finish an exam?	_____	_____
7. Do you go back over the entire exam before you turn it in?	_____	_____
8. After your exam is returned, do you go over it to evaluate your preparation and clarify your errors?	_____	_____
9. When you get your exam back, are you often surprised by the grade you received?	_____	_____
10. Do you usually make careless errors on your exams?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 1, 2, 5, 7, and 8, and 1 point for each *no* answer to questions 3, 4, 6, 9, and 10. Total up your points. A low score (0–4) indicates that you need to develop some new skills for taking objective exams. A score of 5 to 7 indicates that you are using some good strategies but not others. A high score (8–10) indicates that you are already using many good strategies. What did you learn about yourself by completing this activity?

REDUCE TEST ANXIETY

To perform well on objective exams, you have to be well prepared. However, several other factors may contribute to your success or failure. One of these factors often is referred to as your test-taking ability. Some students are more skilled at taking tests than others. They have learned strategies and techniques that improve their performance. Another factor that can affect your performance is your level of comfort when you take an exam. Some students view exams as everyday events, whereas other students consider them to be monumental obstacles that must be overcome. These different attitudes toward exams may be, in part, a result of students' varying levels of test anxiety.

All students experience a certain level of test anxiety at one time or another, but some students experience high levels of anxiety, fear, and frustration before, during, and after taking exams. Understanding the real causes of test anxiety and developing coping techniques can help you reduce the amount of test anxiety you experience.



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What Is Test Anxiety?

Some students come into an exam feeling well prepared, well rested, and highly motivated. Other students, however, feel uncertain about their level of preparation and anxious about their performance on the test. We could say that they are experiencing test anxiety. *Test anxiety* involves both physical responses, such as headache, nausea, rapid heartbeat, shallow breathing, and emotional responses, such as worry and negative thoughts. The following list of common symptoms of test anxiety was suggested by college students:

nausea	fainting	throwing up
light-headedness	going blank	shaking
sweaty palms	worrying about failing	headaches
butterflies	trouble concentrating	feeling tense
heart pounding	diarrhea	crying

Of course, not everyone exhibits all of these symptoms of test anxiety, but some students do experience one or more of them. Can you think of any others that could be added to the list?

Although many students experience test anxiety, we don't know for sure whether test anxiety really causes some students to perform poorly on exams. The connection between test anxiety and poor test performance still is being investigated by many researchers. However, test anxiety does appear to be related to poor test performance in students who exhibit very high levels of anxiety. For most of us, though, test anxiety alone does not cause test failure. Instead, lack of preparation (which can increase test anxiety) is the real cause of test failure.

What Causes Test Anxiety?

What causes some students to experience test anxiety while others appear calm and collected on exams? Although there's no real answer to this question, several possible explanations may help you understand the problem. For some students past experiences during exams lead to anxious feelings about subsequent exams. Failure accompanied by embarrassment and frustration in one testing situation can lead to anxiety in the next. Failure, by the way, doesn't mean the same thing for every student. When most people talk about failing an exam, they mean getting a grade that is below passing. For some students, however, getting a C or even a B is like failing; they fail to get the grade they wanted or needed. Excellent students often exhibit high levels of test anxiety because of the pressure they (or others) put on themselves to be the best.

The amount or level of anxiety that students experience also may depend on the value that they place on the exam. If doing well in the course is very important to you personally or professionally, you may view the exam as a critical or "must-win" situation. On the other hand, if the class is seen as having little value or being unimportant to your future, you may experience little anxiety. This may explain why you may experience test anxiety in one class but not in others. Often, the greater the risk the greater the stress.

Do you experience test anxiety on some exams but not on others? Your level of self-efficacy (your belief in your ability to successfully complete a task) may be a factor in causing some test anxiety. Students who have high self-efficacy typically don't experience much test anxiety (unless other factors have a greater impact). Are you good at math? Have you ever felt concerned about taking a math exam? If you have high self-efficacy about taking math exams, you probably won't experience much anxiety. On the other hand, if you have low self-efficacy about taking math exams, you will probably experience more test anxiety.

Sometimes the type of test being given can lead to test anxiety. Some students become anxious during exams that require them to demonstrate their knowledge in ways in which they do not feel comfortable. For example, some students panic when they find that they have to take essay tests. Others become anxious over oral exams. And, some, like me, hate true/false tests. Different types of tests cause feelings of anxiety for different people. The added pressure of having to complete an exam within a limited time period also creates feelings of anxiety for many students.

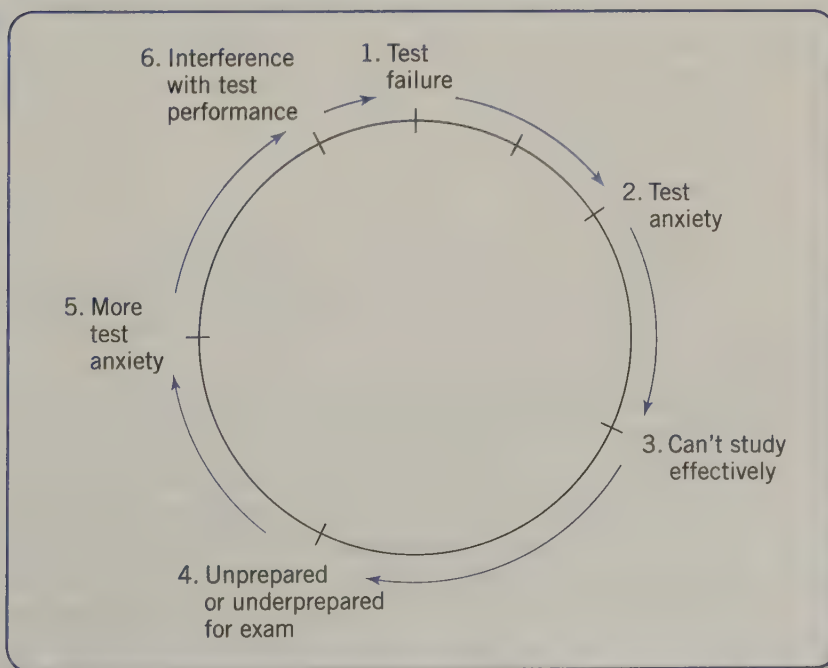
Is Test Anxiety Normal?

With all of these factors contributing to test anxiety, it's hard to believe that any student doesn't feel some level of anxiety. Actually, just about everyone does. It's perfectly normal to be anxious about an exam. If you weren't a little anxious about your performance, you probably wouldn't study at all. A small amount of test anxiety is good. We can describe this state of anxiety as *facilitating test anxiety*—anxiety that facilitates or helps motivate you to prepare before and work hard during the exam. On the other hand, a high level of test anxiety can interfere with your performance on an exam. We call this type of anxiety *debilitating test anxiety*. Like a debilitating illness, it prevents you from functioning in a normal way. High levels of test anxiety may interfere with your ability to concentrate on the exam, take the exam, or even to prepare for it. If you're out in the hall throwing up, you're losing time you should be spending completing the exam.

Some students have trouble studying for exams because they're so anxious about them. When they begin to study, they start to think about the exam, and they experience some of the physical and emotional symptoms that we've discussed. They have difficulty concentrating on the material during the study session in much the same way that they do during the exam. This leads to poor preparation, which then leads to another poor test grade—and so the cycle continues (Figure 11.1).

FIGURE 11.1

Test-Anxiety Cycle



Coping with Test Anxiety

There are a number of ways that you can learn to cope with test anxiety. First of all, remember that some test anxiety is good, so your goal should be to reduce higher levels of anxiety to a level that becomes facilitating. Look again at the test-anxiety cycle in Figure 11.1. There really is only one point at which a test-anxious student could interrupt the cycle and therefore change the outcome. Where is it? If you said “Can’t study effectively,” you were correct. This is the only point at which you can effectively change the outcome of your next exam. If you were well prepared, you wouldn’t experience more test anxiety when you began the exam and that wouldn’t interfere with your test performance. A number of strategies can help you reduce your test anxiety.

1. **Prepare well.** The best way to lower your level of anxiety is to be well prepared for the exam and to know that you are well prepared. By developing a structured study plan (such as the Five-Day Study Plan), you can be well prepared. Using active study strategies such as writing and reciting can help you master the material for your exam. Once you know that you can do well on that exam, you won’t be as anxious the next time—you’ll be able to break the test-anxiety cycle.
2. **Monitor your learning.** If you quiz yourself each day, you’ll also find out what you do know and what you don’t know. Then you can continue to study that material until you do know it, and by test time you’ll be well prepared and confident about your preparation.
3. **Use relaxation strategies.** During an exam, use relaxation exercises to help reduce your anxiety level. Use breathing or muscle-relaxing techniques to calm yourself. Just taking a few deep breaths can help you calm down. If that doesn’t work, try taking a breath and then blowing it out very slowly, as if you had built a house of cards and didn’t want to knock it over. Do this a few times until you find that you’re able to control your breathing.
4. **Avoid negative thoughts.** One of the most common problems that students experience during exams is negative thoughts. They think about failing the test, start worrying about whether they studied the right material, or tell themselves that they don’t belong in school. If your attention is occupied by negative thoughts, you can’t effectively think about the questions and retrieve the answers you need to complete the exam.
5. **Recite a positive mental script.** After you study for a test, prepare a positive mental script. Everyone’s script will be different, but yours might go something like this: “I’m going to do well on this exam because I really know this stuff. I studied for eight hours for this exam, and I got As on all my homework papers and on my self-test. I know how to take tests, and I’m well prepared.” As soon as you begin to think any negative thoughts during the exam, yell “STOP” or “STOP IT” in your mind and immediately repeat your positive script.

6. **Use visualization.** You can also reduce anxiety by dealing with it ahead of time. Several days before the exam, put yourself in the exam situation. You can actually go to the classroom or testing room and pretend you're there to take the exam, or you can just pretend you're there and visualize the room. Try to imagine the professor walking in with the exam, giving directions, and passing out the tests. Picture yourself starting the exam. As you go through this role playing, monitor your level of anxiety. If you begin to feel anxious, use one of the stress-reduction activities to calm yourself.
7. **Don't arrive too early.** Arriving too early can actually increase your anxiety level. The longer you have to wait for something that you're apprehensive about, the higher your anxiety level may rise. Enter the classroom about five minutes before the exam is scheduled to begin. You'll have time to settle in and do a quick review, but not enough time to allow yourself or others to make you nervous.
8. **Identify your triggers.** Identifying what triggers your feelings of anxiety can help you cope with them. If essay questions are your troublesome area, do the objective part of the test first. If your professor makes you nervous by announcing the time every five minutes, tell him or her about your problem.
9. **Answer the questions you know first.** Test anxiety doesn't last forever; for most students the symptoms subside after about fifteen or twenty minutes. If you use strategies to help reduce your anxiety and at the same time answer the questions you know, your anxiety need not affect your grade.
10. **Don't let test anxiety become an excuse.** Some students blame test anxiety instead of themselves when things aren't going well. They blame their test failure on their anxiety rather than on their lack of preparation, poor class attendance, or poor preparation in high school. Remember, the real cause of test failure is poor preparation—not test anxiety.

GENERAL TEST-TAKING STRATEGIES

Now that you've developed many good strategies for test preparation, you need to learn how to approach and take objective tests. Learning how to approach exams in a calm, systematic way can help you increase your score. There are two main factors that determine your exam grade. One is your level of preparation. The second, however, is whether or not you're a good test taker. In this chapter, you'll learn a number of strategies that will help you earn more points on objective exams, but the one factor that will make the greatest impact is your level of motivation.

Get Motivated

To earn top scores on objective exams, you need to be highly motivated. Think about the last exam you took. How motivated were you? Did you work hard to earn every point available, or did you rush through the exam just to get out of class early? Have you ever just guessed when you didn't know the answer to a question? Many students don't put enough time or effort into taking exams. They read a question and pick an answer, sometimes without even looking at all of the alternatives. Others leave questions blank when they don't know the answer. If you want to earn a good grade on your exam, you need to work just as hard taking the exam as you did preparing for it. The strategies you'll learn in the remainder of this section require you to spend more time, make more effort, use good test-taking strategies, think critically as you move through the exam, and fight for every point.

Follow Directions

Reading the directions before beginning an exam can make the difference between getting a good grade and failing the exam. The directions give you information on how many questions to answer, what form the answers must take, and special directions for some parts of the test. The directions for all parts of an exam are not necessarily the same. Some sections of a multiple-choice exam, for example, may ask you to choose the best answer. Other sections may ask you to select all of the correct answers or the only incorrect answer. Marking only the best answer when all correct choices are required may cost you 2 or 3 points per question. Occasionally, students lose points on true/false exams because they don't read the directions. If you mark the statement false without correcting the false statement (as required in the directions), you may not get credit for the answer. Errors like these can result in failure.

Budget Your Time

If you budget your time during an exam, you should be able to complete the entire exam before time runs out. If you lose track of time or spend too much time on one part of the exam, you may run out of time. Being unable to finish even five 2-point questions on a fifty-item test can mean the difference of one letter grade. Pacing yourself during the exam helps you maximize your score by letting you devote the most time to those parts of the exam that have the highest point values.

Consider Point Values

Preview the exam to find out the total number of questions you have to answer. Then look at each section of the exam and check the point value for each question. I have often given exams composed of forty multiple-choice questions (worth 2 points each)

and five short-answer questions (worth 4 points each). The exam is worth a total of 100 points, and my students have fifty minutes to complete it. On each exam, I made a habit of walking around the room about twenty-two minutes into the test. I was looking to see how many of the students had finished the multiple-choice part of the exam and had already moved on to the short-answer questions. Typically, on the first exam, most of the students were done (or almost done) with the multiple-choice section by that time. They had answered forty questions in only twenty minutes, spending only about thirty seconds on each question.

A number of research studies have shown that on average it takes about thirty seconds to read the question, read all four (or five) alternative answers, and pick one. That means my students were not taking time to underline key words, eliminate wrong answers, reread any parts of the question or answers, or even think about what the question was really asking. Earning a low grade on the multiple-choice section (which many of them did on the first exam) resulted in a low grade on the exam as a whole. There simply weren't enough points in the short-answer section to pull up a low multiple-choice score. The problem for many of my students was that they were not spending enough time on the part of the exam that generated the majority of the points. If you use the following rule, you'll be able to determine how much time to spend on each question or section of the exam:

$$\text{Percentage of the total points} = \text{Percentage of total time}$$

Pace Yourself During the Exam

Even if your exam is all multiple-choice questions, you still need to budget your time. You want to complete the entire test and still have time to go back over it. Divide the time you have by the total number of questions and then shave off some time for your review. You may have forty questions worth 2 points each to answer in a fifty-minute period. If you allow ten minutes for review, you can spend one minute on each question.

Some students lose track of time because they spend too much time on one question; they find that they have fifteen questions left to answer when the professor announces that they have five minutes left. You can prevent this from happening by *pacing* yourself during the exam—by dividing up the exam and setting time goals for each third, fourth, or fifth of the exam. For example, if you had forty questions to answer in forty minutes, you might divide the exam at the end of each ten-question chunk. If your exam started at 2:00, you might jot 2:10 in the margin next to question 10, 2:20 in the margin next to question 20, and 2:30 in the margin next to question 30. Each time you moved to the next chunk of questions, you would see the time in the margin, check the time, and monitor your progress. If you were working slowly, you would realize it early enough to speed up. If you realized that you were racing through the questions, you could slow down and spend more time on each question.

What to Do If Time Runs Out

What would you do if you haven't finished the exam when time runs out? If you have one or two questions left to do, ask the professor for a few more minutes. Even though some professors are sticklers about time, they may allow you to finish the exam while they gather up their materials. If you often have difficulty completing exams in the required time, discuss this with your professor in advance. Some professors allow students to arrive early and begin the exam before the rest of the class. If you have a learning disability or if English is your second language, you often can make special arrangements through your campus disability office, learning center, or academic dean. Most professors are willing to make accommodations to help you succeed on exams, but you need to tell them what your needs are.

Work Systematically Through the Exam

You can improve your score on objective exams by working systematically through the exam. To maximize your score, you should answer the easy questions first (the ones you know) and then use problem-solving strategies to figure out the ones you don't know. In any case, don't leave blanks—answer all of the questions to maximize your score.

Answer the Easiest Questions First

You can maximize your score on an objective exam by answering the easiest questions first. If you do run out of time, you'll be sure to receive points for the questions that you did know. In addition, you can reduce your test anxiety by answering the easiest questions first. By the time you go back to work on the more difficult questions, you'll feel more relaxed. This is because you build up your confidence as you complete the easy questions; you know that you know at least some or even many of the answers.

Some students panic when they read the first question on the test and realize they don't know the answer. Instead of allowing yourself to start thinking negative thoughts, just tell yourself "This is a hard question—I'll come back to it later." Unlike more negative statements, that statement is rather neutral. After all, there are hard questions on all exams. Telling yourself it's a hard question won't raise your level of anxiety. You aren't making a statement about your preparation or about yourself—you're simply stating a fact about a question. Thinking about the question rather than about failing the test or whether or not you studied the right material will help you stay calm and focus on the rest of the test.

Work Strategically to Answer All Questions

As you move through the exam, skip the questions you aren't sure of and go on to the easier questions. If you know that you don't know an answer, don't spend a lot of time on the question. Mark the questions you skip by putting a dash or question

mark in the margin or by circling the number. After you complete the rest of the test, go back to them. (If you're using an answer sheet, be sure you skip the same spaces there, too.) When you return to the questions you skipped, try to figure out the answers strategically. Think through each question. Underline key words in the question to focus your thinking. Eliminate any answer that you know is wrong and then try to figure out the correct answer. Do a memory search to try to retrieve the information about the topic. Ask yourself questions about the material. Try to determine whether the answer came from the lecture or from the text. Try to remember where you saw it on the page, where it was written in your notes or study sheets, or what the professor was talking about just before or after that topic was presented. By searching your memory, you may be able to find a clue or cue that helps you recall the information.

Look for Clues in Other Questions

Many students find clues to difficult questions as they move through the test. You may even find the answer to an early question in one of the possible answers to a question three pages away. Even if you don't find the answer itself, you may find a helpful cue. You may read a word in another question or in another possible answer that triggers your memory and helps you retrieve the information that you need. Picking up a clue to just one or two questions as you move through the test can often make a difference in your grade.

Use Strategic Guessing

Even if you're well prepared for a test and use good test-taking strategies, you still may find that you can't answer some questions. When none of your test-taking strategies work, then you should guess. Let's say there are four questions that you can't figure out on a fifty-item multiple-choice test. Because each of those questions is worth 2 points, your unanswered questions add up to 8 points or almost one letter grade. Not answering them will result in at least an 8-point loss in your grade. Guessing doesn't guarantee that you'll get all of the questions right, but it certainly improves your odds of getting some of them right.

What is a guess anyway? Some students describe a guess as a random choice from among the alternatives. However, *strategic guessing* involves more active processes. There are a number of strategies that you can use to pick up a few more points on an exam even when you don't know the correct answer. The most important point to remember, though, is that you have to be well prepared to use these strategies.

Rule 1: Be well prepared. Unless you are well prepared for an exam, strategic guessing will not work. You can't use these strategies unless you already know many of the answers.

Look for Patterns

After you answer all of the easy questions on an exam and use problem-solving strategies to figure out the answers for a few more, you may still have a few you don't know.

Rule 2: Don't guess as you go. If you guess on questions that you don't know as you move through the exam, you won't see the patterns emerge.

Rather than just guessing randomly, look for patterns in the answers. Many professors never use the same letter more than two or three times in a row before shifting to a different response. So if you know that B is the correct response for the three previous questions and you eliminated C and D, A would be a more strategic guess than B. Go back and look at some of your old exams to see what types of patterns your professors use. You may find that your professor tends to use more false statements on true/false tests or more D answers on multiple-choice items. If you have five or six blanks at the end of the test, you could mark them all false or all D (assuming you didn't already eliminate D as a wrong answer). Although you won't get all of the questions right, you should be able to get at least a few of the answers right—adding several points to your total test score.

Rule 3: Eliminate wrong answers. Even if you don't know the correct answer to one of the questions, you may know that some of the answers are incorrect. If you eliminate the wrong answers, you'll increase your odds of guessing the correct answer.

Check for Balanced Answer Keys

Some professors use *balanced answer keys*; that is, they use exactly the same number of As, Bs, Cs, and Ds. If you find that there are three or four questions that you can't answer, count how many of each letter you've already used. You may find that you have fewer As than any other letter. By marking your remaining answers "A," you probably will pick up several additional points. If you have a true/false exam and you know that your professor always has twenty-five true answers and twenty-five false answers, you should count the number of each answer that you've already used and mark the ones you don't know with true if you know that you have fewer true answers than false answers. Although these sound like great strategies, they only work if you're well enough prepared to get most of the answers right. Otherwise, you won't be able to see the pattern in the answer key.

Rule 4: Don't be greedy. Instead of trying to get all of the answers right, which could result in guessing none of them correctly, mark all of the answers with one letter (the one you've used the least often) to get some of them right.

Guessing Doesn't Replace Proper Preparation

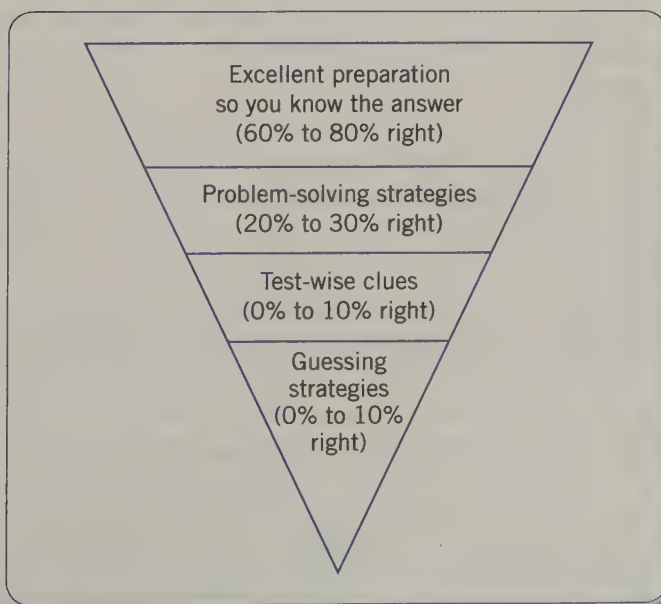
Remember, guessing strategies are designed to help you pick up a few additional points when you absolutely can't figure out the correct answer any other way. They're not designed to replace proper preparation or substitute for more active problem-solving strategies that can lead you to the correct answer by providing you with clues or aiding your recall of the answer. Use them only after all other attempts to figure out the correct answer have failed. In fact, the students who are the best prepared to take an exam can benefit the most, because they will have only a small number of unanswered questions.

SPECIFIC TEST-TAKING STRATEGIES

Although you should be able to correctly answer the majority of the test questions if you're well prepared, you won't know the answer to all of them the instant you read them. There are four levels of strategies that you should use when approaching an exam question (Figure 11.2). First, if you prepare well enough, you should be able to recall the correct answer to many of the questions without even looking for it—you should be able to think of it and then go find it. If you don't know the correct answer to all of the questions, you should be able to use problem-solving strategies to figure some of them out. If you still can't identify the correct answer to some of the test questions, your third option is to use test-wise clues. Finally, if all else fails, use strategic guessing to pick up a few more points.

FIGURE 11.2

Levels of Strategies



Strategies for Multiple-Choice Tests

The most common type of objective test is the multiple-choice test. Many new college students have difficulty on multiple-choice exams because they expect all of the questions to be at the knowledge level, so they try to memorize the information. Do you? If so, you may not understand it well enough to answer questions at the recall-level of learning. However, if you are able to recall the correct answers from memory without cues, multiple-choice exams will be easy for you. Most multiple-choice exams contain a *stem*, which is composed of a question or an incomplete sentence, and several *alternatives* or possible answers.

Many strategies are effective for taking multiple-choice exams; however, these strategies come in two different forms. The first group includes *problem-solving strategies* that can help you figure out the correct answer from the various distractors or decoys. The other group involves *test-wise strategies* that should be used only after you've tried all the other strategies. Some students think of test-wise strategies as rules; they aren't. They should be used only when you can't figure out the answer using problem-solving strategies. After you read the directions and budget your time, use the following strategies for multiple-choice items.

Problem-Solving Strategies

Problem-solving strategies can help you identify the correct answer even if you don't know it when you first read the question.

1. **Read the question and all answers before you select the “correct” answer.** Some students lose points on multiple-choice exams because they don't read all possible answers before selecting the one that they think is correct. In most multiple-choice tests, you generally are asked to select the best answer. In that case, several of the choices may be correct or good answers, but only one answer is the best answer.
2. **Underline key words.** By underlining key words in the question, you can better focus your attention on what's being asked. In addition, you may find that underlining key words helps you identify a cue that triggers your long-term memory. Finally, taking the time to underline key words in both the question and the possible answers forces you to slow down and read the question and answers more carefully. If you rush through the test, you may misread questions or answers. You may make careless errors that cost you points you should have had.
3. **Work to eliminate incorrect alternatives rather than looking for the “right” answer.** After reading the question and all of the alternatives, begin looking for those that you know are wrong. When you're sure that one possible answer is a *distractor* (incorrect answer designed to appear correct), cross it off. Continue eliminating choices until only one answer remains. If you can eliminate all of the alternatives except one, you know you've found the correct answer.

4. **Connect the stem of the question to each alternative answer; then treat each statement as a true/false item.** In a way, all multiple-choice exams are really composed of a series of true/false items. If you're good at taking true/false tests, use the same strategies that work for you on the true/false items for the multiple-choice items. Identify key words, underline words or phrases that make the statement false, and watch for absolute, qualifying, and negative words (discussed in the next section).
5. **Read the question, cover the alternatives, and think of the answer.** Some professors are so good at writing distractors that, even if you know the correct answer, you begin to have doubts about it after reading the alternatives. To avoid this problem, cover the answers with your hand, read the question, and think of the answer. Then read each alternative and ask yourself, "Does this mean the same thing as the answer that I know is correct?"
6. **Use caution when "all of the above" and "none of the above" are included as choices.** If you can eliminate even *one* alternative, you can eliminate "all of the above" as the correct answer. Similarly, if you're sure that at least one choice is correct, you can eliminate "none of the above." If you have three alternatives and you know that two of them are correct but aren't sure of the third, "all of the above" must be correct (assuming you can choose only one answer). If "all of the above" and "none of the above" are used only occasionally on the test, they are probably the correct choices. Watch for patterns like this on each exam.

Test-Wise Strategies

Use test-wise strategies to help you determine the correct choice when you can't figure it out. Many courses that are designed to prepare students to take the SATs or other standardized tests seem to specialize in these "test-smart" strategies. Some of them are very helpful; others are not as useful. The key is to use these strategies sparingly. Never follow a test-wise strategy that would require you to select one alternative when you are fairly sure that another alternative is the correct answer. Use these strategies only when you can't determine the correct answer by using the more conventional strategies.

- An answer that contains more specific, detailed information probably is correct. Vague or general alternatives are often used as distractors.
- An answer that contains the most words, especially if it also contains the most specific information, probably is correct.
- An answer that's approximately in the middle numerically probably is correct.
- An answer that contains an unfamiliar term probably is wrong.
- An answer that contains a typo, especially if there are very few typos in the test, probably is wrong.

- An answer that is grammatically correct probably is right if the other choices are not grammatically correct.
- An answer that contains a form of the word or a word similar to one in the stem of the question is probably correct.
- If a question contains two opposite alternatives, one of them is probably correct.
- If a question contains two alternatives that are almost identical (perhaps only one word is different), then one of them is probably correct.

Strategies for True/False Tests

Many students like true/false tests because they provide excellent odds for guessing correctly. However, some students have difficulty dealing with this type of test because the statements can be tricky. To make a statement incorrect, professors may change key words, omit key words, add absolute or negative words, add extraneous information, and so on. Because there are so many ways to make a statement false, students must consider all of them as they examine each statement.

Use the following basic guidelines when taking true/false tests and when eliminating wrong answers on multiple-choice exams.

1. **Always read the directions before beginning a true/false test.** Some professors are very particular about how they expect students to mark true/false items. If you don't complete the exam according to the directions, you may not get credit for your answers.
2. **For a statement to be true, it must be all true.** If any part of the statement is false, the entire statement is false.
3. **True/false items are not all tricky.** Some students start to look for tricks or read too much into the question when a true/false item seems too easy. If you're properly prepared for a test, some true/false items should appear to be easy.
4. **Identify key words or phrases.** Many professors make a statement false by substituting another word or phrase for the correct one. By identifying and verifying the accuracy of key words, you can more easily decide whether a statement is true or false.
5. **Statements that contain absolute words are usually false.** Words like *always*, *all*, *none*, *never*, *only*, *every*, and *no* are examples of *absolute words*. Each of these words implies that there are no exceptions. Although the inclusion of these words in a true/false item does not guarantee that it's false, it usually indicates a false statement. In fact, other than changing one or more key words in the statement, this is one of the most common ways to turn a true statement into a false one.

6. **Statements that contain qualifying words are usually true statements.** Words like *usually, often, may, can, sometimes, frequently, rarely, most, some, many, few, and generally* are examples of *qualifying words*. These words qualify or temper the statement to allow for exceptions and are generally associated with true statements. However, if you know that a statement is false, mark it *false* even though it contains a qualifying word.
7. **Statements that contain negative words often are tricky and require careful attention.** Double negatives, which generally include the word *not* plus another word that contains a negative prefix, such as *incoherent, illogical, irresponsible, unhelpful*, and so on, often confuse students. If a statement contains a double negative, cross off the word *not* and the negative prefix (*in, il, ir, or un*) and then reread the statement to determine whether it's true or false.
8. **Always underline the word or words that make a statement false.** If you can't identify and mark the actual key words, absolute words, and so on that cause the statement to be incorrect, assume that it is correct and mark it true. There is one exception, however. If you know that a statement is false by omission (because a key word or phrase has been left out), mark the statement *false* even though you can't actually underline the words that make it false.
9. **Correct all false items on the exam if you have time to do so.** By correcting the statement, you show the professor, and remind yourself, what you were thinking during the exam. (By the time you get the exam back, you may not remember why you thought the item was false.) Use this strategy only when you have plenty of time to complete the test or if you can make the correction quickly.
10. **Many professors include more true items than false items on an exam.** Many professors use tests to reinforce the main ideas that were presented in the course. If you absolutely can't figure out whether a statement is true or false, mark it true. Watch for patterns on each test.

Strategies for Matching Tests

With proper preparation and test-taking strategies, you should be able to get top scores on matching tests. Matching tests require you to recognize the correct answer from a list of alternatives. The answers to all questions are given; you don't have to recall the answer from memory. Before beginning a matching test, be sure that you read the directions. Usually, you're instructed to use each letter only once, but some matching tests allow for or require the repeated use of some letters.

Work from One Side

Matching tests often include a list of names or terms in one column and a list of identifications, accomplishments, or definitions in the other column. When you

take a matching test, always work from one side only. Crossing off items in both columns leads to confusion and often results in careless errors or wasted time. You'll save time if you work from the column that has the most words (usually the definition column). If you work from the term column, you have to scan many more words in the definition column to find a correct match. If, instead, you work from the definition column, you have to scan fewer words on each pass—saving you time for other parts of the exam.

Answer the Questions You're Sure of First

When taking a matching test, it's crucial that you make the matches that you're absolutely sure of first. By eliminating all of the choices that you're sure of, you can narrow the alternatives for the remaining choices.

Eliminate and Cross Off Alternatives

As you go through the list of definitions, cross off the letter (not the words) of the ones that you use. Just put one diagonal line through the letter so that you can recheck your matches later. If you can eliminate five of the ten alternatives on your first pass through the list, you've improved your chances of getting the others right.

After you match all of the items you're sure of, start with the first unmatched definition that you have and try to match it with each remaining term. If you're sure of a match, make it; if not, skip over that definition and go on to the next one. Continue down the list until you can make one more match. Then go back through the list again. Having eliminated one more alternative, you may find that only one other term could possibly be correct for one of the definitions. Through the process of elimination, you should be able to make all the matches.

Recheck Your Work

After you've matched all items on the list, go back and check to be sure that you've not accidentally used the same letter or number twice. Going through the letters or numbers and crossing off each one again can help you avoid careless errors.

Strategies for Math Tests

Many students experience anxiety on math exams, whether they have math anxiety or not. Math tests are a little like essay tests—you can't just guess A or C; you have to know how to get to the answer. You can use a number of strategies to earn a high grade. The first thing you should do when you get your test paper is write down the formulas that have caused you the most trouble. Once you jot down some notes on the exam paper, you'll feel a little better. After you read the directions, take a look at



End-of-Exam Strategies

- ❑ **Don't leave the exam early.** Some students rush through the exam because they are afraid of running out of time. Others begin to panic as soon as the first student turns in his or her paper. You need to use all of the exam time to get the best grade you can. You may be able to pick up a few more points by using problem-solving strategies, test-wise clues, and strategic guessing.
- ❑ **Go back over difficult questions.** Use any additional time to rethink difficult questions on the exam. Underline key words in the question and in the alternatives. Eliminate wrong answers. Look for clues in other questions. Rephrase the question or the alternatives.
- ❑ **Redo problems to check your work.** Many students lose points on problem-based exams because of careless errors. If you have time, cover the problem with your hand and rework it. Then compare your answers. If they differ, check your work line by line until you locate your mistake.
- ❑ **Use caution when changing answers.** During a final review of the test, many students change answers because they start to have second thoughts about their original choices. This strategy often leads to changing correct answers to incorrect ones. Instead, use this rule: Don't change an answer unless you find that you misread the question or actually find the correct answer or a clue to it somewhere else on the exam.
- ❑ **Review the entire exam.** When you complete the exam, take a few minutes to go back over it and check your answers. Some students make careless errors when they begin the exam because they're anxious; others do the same toward the end of the exam when they think they're running out of time. By reviewing your test, you may be able to correct some careless mistakes that would have cost you valuable points.
- ❑ **Code your test.** If you have time, put a line through the letters of answers that you eliminate. Circle the letter of the answer that you select and leave blank the letters of any answers that you aren't sure about. You should also put a dot next to the answer when you guess. You can monitor your guessing ability after the exam, too, by coding your answers.
- ❑ **Check your answer sheet against your exam.** Before you turn in your test paper, take a minute or two to check to be sure that you marked the correct answers on your answer sheet. It's easy to make mistakes when you're nervous or in a hurry. You want to get the points for all your correct answers.
- ❑ **Estimate your grade.** Before leaving the exam, take a few minutes to estimate your grade. Learning to accurately predict your test score can help you eliminate feelings of panic that often occur after taking an exam. Some students become so nervous about the outcome of an exam that it interferes with their ability to concentrate on their other work.

the whole exam to see how many problems you need to answer and set up a strategy to budget your time.

Look at the first problem. If you know how to solve it, do the problem. If you're not sure about it, skip it. Trying to solve a problem, when you really don't even know where to begin, will only frustrate you and heighten your anxiety level (and waste too much time). Go through the exam and do the easy problems first. By

completing all of the problems you can solve easily, you'll guarantee yourself points for those answers. Have you ever spent so much time trying to figure out one or two hard problems that you couldn't finish the exam? Maybe the last three problems would have been ones that you could have easily solved. Then go back, if you have time, and try the hard ones again. You may find that you can solve them once you have calmed down.

As you approach each problem, try to identify which type it is. Then think about the model problems you created on your problem cards. How did you solve a problem like this one? What steps did you follow? Picture it in your mind or even jot it down on your scrap paper or in the margin. Many professors tell students to draw a diagram of what is given and what is needed to solve a problem. That works for some types of problems, but writing down your model is a type of diagram, too. Follow the steps line by line to solve your new problem.

LEARNING FROM EXAMS

Many students think that once an exam is over, the only thing that matters is the grade. However, exams are learning opportunities. Professors often use them to help reinforce the critical concepts that they are trying to present. Reviewing an exam after it's returned can help you learn more about the course content and clarify any errors that you made. You also can learn a great deal about your professor's testing methods and about your own test-taking skills.

Evaluate Your Preparation

Your graded exam can be used to help you evaluate your preparation. By determining where each question came from (the lecture or the textbook), you can tell whether you're focusing on the same topics and concepts as your professor. You also can check how well you mark your text and take notes by scanning the text or your text notes and looking for questions that were on the exam. If you find that few of the test questions are contained in material that you highlighted or noted, you can make changes before the next exam. Determining how many of the questions came from the text and how many came from the lecture can help you decide how much time to spend on each type of material the next time you prepare. If, for example, your professor took 80 percent of the exam questions from the lecture material, then you should have spent 80 percent of your study time on lecture notes and only 20 percent on text material.

You also can evaluate how well you were able to anticipate or predict test questions. Check your predicted questions to see how many of the items were actually on the exam. How many of the test questions did you predict? Think back to how

you felt as you took the exam. Did you feel surprised by many of the items, or did you often find yourself thinking, “I knew this would be on the test”?

Finally, evaluate your test-taking skills. Did you read the directions, budget your time well, and answer the easy questions first? Did you work through the difficult items in a logical, systematic way, eliminating wrong answers? Were you able to identify key words in the questions that helped you figure out the correct answers? Did you review the exam? Knowing how effectively you were able to use the various test-taking strategies can help you improve your performance on the next exam.

Learn from Your Mistakes

Understanding why you were wrong about a particular answer can be critical to your success on the next exam. In some cases, you may need to clarify or correct information that you have learned. By discussing your mistakes with your course professor, you may find that you hadn't really understood the material after all. By examining your errors, you can determine whether they resulted from poor preparation, carelessness, or poor test-taking strategies. Locating the answers to the questions that you missed in the text or in your lecture notes can help you determine whether you spent enough time on that material.

Get Help Before the Next Exam

If your grade on the exam isn't up to par, go for help immediately. Your first stop should be your professor. Set up an appointment to discuss your exam. Go over the exam question by question until you have a clear understanding of what you need to do to improve your grade for the next exam. Tell your professor exactly what you did to prepare, and ask for suggestions about what you may need to do differently.

Your next stop should be your college learning center. Many learning centers offer individual assistance or workshops on test preparation, test anxiety, and test-taking strategies. If you lost points because you didn't understand the material, you may need to request tutorial assistance. Check to see if your learning center, department, or organizations offer tutoring services. Waiting to see if you do better on your next exam can be very risky. If you don't do any better, you'll have two low grades to pull up.

SUMMARY

Your preparation for exams is only one factor that influences your final grade. Some students are good test takers and others are not. Why? One explanation involves how effectively they can handle the stress of taking exams. Test anxiety can affect your ability to prepare for and take exams. Another factor is your level of motivation. There are many approaches to taking exams. Some students just





read a question and pick an answer in order to get out of class as quickly as possible. That doesn't take much motivation at all. To maximize your test score, you need to be motivated enough to use effective test-taking strategies.

Following directions carefully is crucial during any testing situation. Too often, though, students skip this important step in order to save time or because of high levels of test anxiety. Budgeting your time during exams is also important. You want to complete the entire exam and still have time for a final review. You can maximize your test score and pick up clues to more difficult questions by answering the easiest questions first. Using problem-solving strategies such as doing memory searches, eliminating wrong answers, and underlining key words are just a few ways to figure out the correct answer when you're not sure of it. However, when you still can't come up with the right choice, you should guess. You can often improve your exam score by using strategic guessing. If you've taken the time to prepare properly for your exam, take the time to take it, too. Students who persevere—continue to work on difficult questions, think through confusing items, look for clues in other questions, and use other problem-solving strategies—do better on exams. By evaluating your preparation and performance, you can learn how to improve your grade on the next exam.


ACTIVITIES




1. Go to the Web site and follow the link to the Test Anxiety Scale. Answer each of the questions online or by printing a copy of the questionnaire. Then follow the scoring instructions to determine your test anxiety level. What did you find?
2. Think back to your last round of exams. How would you describe your level of motivation when studying for exams compared to your level of motivation when taking exams? Did you work as hard when you were taking the exam? Did you use all of the time that was available to you? Did you work hard to figure out the correct answers to each of the questions you didn't immediately know how to answer? Did you fight for every point?
3. Think about your test-taking experiences in high school. How did you do on tests? What strategies did you use when taking objective tests? How successful were those strategies? What changes do you plan to make in order to be as successful or more successful on college exams?
4. On the Web site, click on the Activities Packet for Chapter 11. Complete Activity 11-2 to learn to budget your time on exams.
5. On the Web site, click on the Activities Packet for Chapter 11. Take the practice tests to practice the test-taking strategies for true/false, multiple-choice, and matching tests found in Activities 11-3 to 11-6.
6. Compare the results of the practice tests you completed with those of the other members of your group. What strategies did you use to figure out the correct answers when you took true/false, multiple-choice, and matching tests? How did your strategy use compare with that of the others in your group?


-  7. Using the Internet, identify at least two sites that contain test-taking strategies or tips. Record the sites and either print out or copy ten strategies for taking objective tests to share with your group.
-  8. What strategies do you currently use as you take objective exams? Jot down a few in the margin. Then get together with a group of your classmates to talk about why you've been using those strategies. What changes do you plan to make in the way you take objective exams? Why? What's your motivation for making changes? Share your responses with the other members of your group.
-  9. From the Web site, download a copy of the Test-Taking Evaluation Chart to evaluate the test-taking strategies that you used when taking three of your exams. What did you learn about yourself by completing this activity?
-  10. Now that you've completed Chapter 11, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW

 **Terms You Should Know:** Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.

 **Completion:** Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. Past test failure can lead to _____.
2. The best way to reduce test anxiety is to be _____.
3. The most important factor in determining how much time to spend on a question is the _____.
4. On a matching test, you should always work from the side with the _____ words.
5. Unless you _____ the question or find the correct answer (or a clue to it) somewhere else on the test, you shouldn't change your answer.

 **Multiple Choice:** Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. _____ test anxiety is helpful because it makes you study for a test.
 - A. Motivating
 - B. Affective
 - C. Facilitating
 - D. Debilitating

7. _____ words almost always make a statement false.
- A. Negative
 - B. Absolute
 - C. Qualifying
 - D. Italicized

Short Answer/Essay: On a separate sheet, answer each of the following questions:

- 8. Why should students answer the easiest questions first?
- 9. How should students cope with test anxiety in order to improve their performance on exams?
- 10. What strategies should students use to maximize their scores on objective tests?

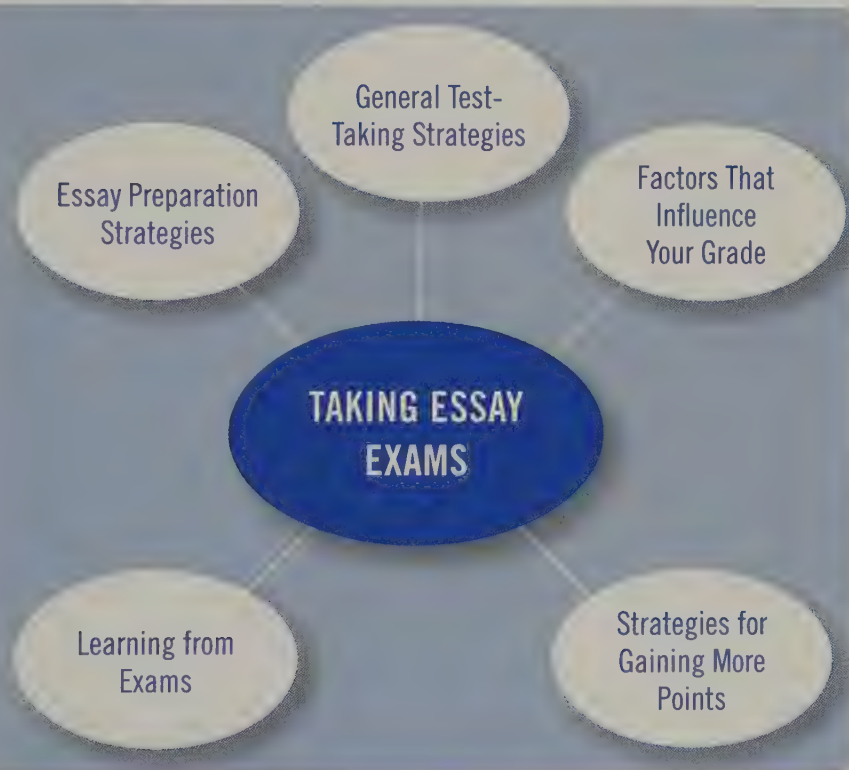


Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Taking Essay Exams

CHAPTER

12



"I have always had trouble with essay tests. While I am writing one paragraph, my mind is way ahead to the next idea and when I go to write it, I have lost the idea. I never really planned an answer. I started writing and just continued until I ran out of ideas to put down. It is much easier to jot down the ideas and then organize them before you start writing the essay."

Jill Wattman, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Compare
Conclusion
Content
Contrast
Define
Describe

Discuss
Evaluate
Format
Illustrate
Informal outline
Justify

List
Main points
Mechanics
Mnemonic device
Neatness
Organization

Summarize
Supporting details
Thesis statement
Topic sentence
Trace
Transition words

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you predict possible essay questions before an exam?	_____	_____
2. Do you develop outlines for your predicted essay questions and practice answering them?	_____	_____
3. Do you use memory techniques to help you remember the main points that you want to make in your answer?	_____	_____
4. Do you tend to rely on old exams and hope that the same questions will be used again?	_____	_____
5. Do you prepare sample essay answers and ask your professor to evaluate them before the exam?	_____	_____
6. Do you generally plan your answers in your head rather than on paper before you begin to write?	_____	_____
7. Do you usually score lower on essay exams than on objective exams?	_____	_____
8. Do you organize your answer before you begin to write?	_____	_____
9. After your exam is returned, do you review it to evaluate your preparation and clarify your answers?	_____	_____
10. Do you know how professors grade essay exams?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 1, 2, 3, 5, 8, 9, and 10, and 1 point for each *no* answer to questions 4, 6, and 7. Total up your points. A low score (0–4) indicates that you need to develop some new strategies for taking essay exams. A score of 5 to 7 indicates that you are using some good strategies but not others. A high score (8–10) indicates that you already are using many good strategies. What did you learn about yourself by completing this activity?

ESSAY PREPARATION STRATEGIES

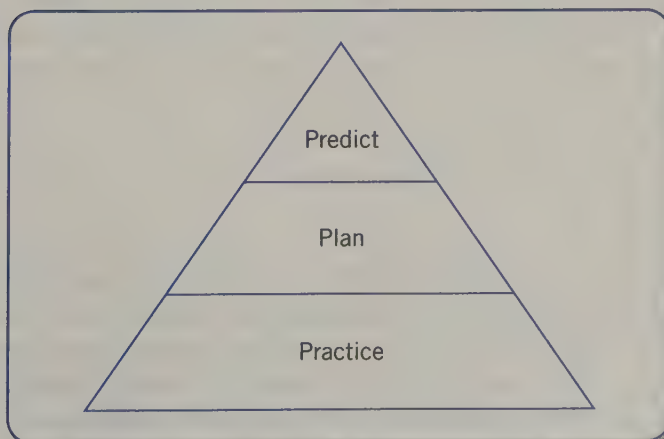
Which would you rather take—a multiple-choice exam or an essay exam? Most students pick the multiple-choice exam. Did you? Why? Many students prefer multiple-choice exams because the answer is there—somewhere. To earn the points, all you have to do is figure out the answer or guess it correctly. Essay exams don't give you that opportunity. Either you know the answer or you don't. Essay exams are more difficult than objective exams for many students because they require recall learning. You need to write an answer that may be one paragraph, several paragraphs, or even several pages long.

Essay questions are used by many professors because they test your understanding of the information at a different level than objective exams. Essay exams require you to think critically about the material you studied and demonstrate your understanding by not only knowing the answer to the question but also defending that answer. Consider the following question: What were the four most important battles of the Civil War? If this were a short-answer question, you might be expected to simply list four battles. However, if it were an essay question, you would be expected to select four battles (by the way, there is no one correct answer to this question) and explain why you believe they were the four most important battles. The difference between a short-answer question and an essay question involves not only making the point but also defending or proving the point.

To prepare for an essay exam, you must be highly motivated. You'll need to use different preparation and test-taking strategies than you've used before. Preparing for an essay exam involves more than just knowing the material. To write a good essay answer, you need to be able to organize your thoughts and ideas rapidly and then present them in a well-developed and well-written form. Predicting, planning, and practicing your own questions and answers before the exam can help you improve your performance on essay exams (see Figure 12.1).

FIGURE 12.1

Three Steps to
Preparing for an
Essay Exam



Predict Questions

If you're not given the actual questions that will be on the exam, the best way to study for an essay exam is to predict your own test questions. By anticipating questions that could be on the exam, you increase your chances of studying the same information on which you'll be tested. Of course, it's also to your advantage to prepare the answers in essay form so that you study the information in the same format that you'll be required to use on the exam. A good rule of thumb is to predict at least four to five times the number of questions that will be on the exam. If you will have to answer two essay questions on the exam, then you should predict eight to ten questions. Another approach is to predict three or four questions from each chapter. This is especially effective if you have only one essay question to answer. The more questions you predict, the greater your chances of accurately predicting the exam questions. Also, even if you don't predict the exact questions, you may find that you've predicted a question similar to the one on the exam. In the process of preparing to answer your question, you may learn the information that you need to answer the question that the professor asks on the exam.

You should predict broad, challenging questions if the exam will cover large amounts of material. If the essay exam will include ten questions on only two chapters of text, however, the questions may be more specific and require more detail about a specific topic. If you're well prepared to answer broad questions, you should be able to answer specific questions, too. Study guides provided by your professor, major topics in your lecture notes, and end-of-chapter questions are valuable sources of possible essay questions. Asking your professor for sample questions and reviewing old exams can help you determine the types of questions that you should be predicting.

Narrow questions that focus on why or how something happened often are too limited in scope. Most essay questions ask you to discuss causes and effects, compare and contrast, explain the steps in a process, and so on. You'll be able to predict and answer essay questions more effectively if you understand terms commonly used in essay questions. A chart of frequently used terms is presented in Figure 12.2. Although you don't need to memorize the terms and their definitions, you should become familiar with them.

Plan the Answers

Predicting essay questions is not the end of your preparation for an essay exam; it's the beginning. The second step in preparing for an essay exam is to plan your answer. Dig through your text and lecture notes and gather information that you would use in your answer. Then take a few minutes and organize it. Finally, outline your answer. Think back to the active study strategies that you learned in Chapter 10.

FIGURE 12.2

Frequently Used
Terms in Essay
Questions

Term	Definition
<i>compare</i>	Tell how two or more subjects are alike; provide similarities. Some professors also expect you to discuss differences—ask.
<i>contrast</i>	Tell how two or more subjects are different.
<i>define</i>	Give the meaning or definition.
<i>describe</i>	Provide details or characteristics about a subject.
<i>discuss</i>	Give a detailed answer that may include definitions, main and supporting points, reasons, and examples.
<i>evaluate</i>	Discuss both positive and negative aspects of the topic and then make a judgment.
<i>illustrate</i>	Explain by giving examples.
<i>justify</i>	Prove by giving evidence that backs up or supports a point.
<i>list</i>	Number and list the information rather than writing in paragraph form.
<i>summarize</i>	Provide a brief review of the main points.
<i>trace</i>	Describe the events or steps in order of occurrence.

Planning your answer is an active preparation strategy that incorporates all of the ICOW strategies (identify, condense, organize, and write).

Gather Information

An easy way to gather information is to treat each question separately. Write each question across the top of a large piece of paper. Then open your text and your notes to that section of the material. Start to look for information that you would use if you had to answer the question. Pretend that it's an open-book exam and you have the opportunity to look for the material that you're going to use. As you locate main ideas and details that would be useful in answering the question, write them down. Don't copy the information; rather, write it in meaningful phrases. If you use a two-column format, you'll be forced to condense the material. Afterward, outline your answer.

Figure 12.3 shows the information Addie gathered for the essay question that she predicted would be on her history exam. As you can see, this list of information is still far from the organized essay answer that you need to write. There are many ways to arrange the information that you pull from your text and notes. Some students prefer to organize the information as they gather it. Many students find, though, that it's too difficult to jump directly to the outlined answer.

FIGURE 12.3

Addie's Gathered Information

	What are the stages in the evolution and growth of American cities?	
○	From beginning to about 1800s (T)	Urban population swelled (T)
	Manifest Destiny (L)	Industrialization continued after Civil War (T)
	Cities grew and developed (T)	1860s to World War I (T)
	The Great Depression (L)	Urban decay (L)
	Suburbs grew and flourished (T)	SMSAs became MSAs (T)
	NYC became national metropolis (L)	Construction of canals and
	1800 to 1860s (T)	railroads (L)
	Cities served as outposts of	World War I to World War II (L)
	Western Europe (T)	Development of coastal cities (T)
	Returning veterans (L)	Northeastern cities developed as
	Cities developed before commercial	industrial centers (T)
	agriculture (L)	Post World War II (T)
	Programs instituted by Pres. F.D.R. to	9,000 banks closed losing
	help the unemployed (T)	\$2.5 billion (L)
○		

Organize Information

You can organize your gathered information by labeling each point. Look at each piece of information that you wrote down and decide where it should go in your essay. Find the point that you want to make first and label it 1. Any points that support it should be marked 1A, 1B, and so on. After you organize the information, you may find that you don't have any supporting points for some of your main points, or too few for others. You can go back to your text or lecture notes and dig for more support. An excellent way to organize your essay notes is shown in Figure 12.4. Does Addie have sufficient support for each of her main points?

Outline Your Answer

Although Addie did organize her information (Figure 12.4), it still isn't in a form that's easy to practice and remember. An informal outline is much more useful for remembering the points that you want to make in your essay answer. The easiest way to outline your answer is simply to list the *main points* (the points that directly answer the question) next to the margin and then list the *supporting details* (the facts, details, or examples that support each main point) indented slightly underneath. Try to limit your main points to seven or fewer so you can remember them. Three or four main points with good support for each should be sufficient for most answers. Of course, if you need to know the five causes of something, then you'll have five main points.

FIGURE 12.4

Addie's Organized
Information

What are the *stages* in the evolution and growth of American cities?

- | | |
|--|---|
| 1 From beginning to about 1800s (T) (L) | 5D Urban population swelled (T) |
| 2A Manifest Destiny (L) | 3A Industrialization continued after Civil War (T) |
| 3B Cities grew and developed (T) | 3 1860s to World War I (T) |
| 4A The Great Depression (L) | 4C Urban decay (L) |
| 5B Suburbs grew and flourished (T) | 5C SMSAs became MSAs (T) |
| 2C NYC became national metropolis (L) | 2B Construction of canals and
railroads (L) |
| 2 1800 to 1860s (T) | 4 World War I to World War II (L) |
| 1B Cities served as outposts of
Western Europe (T) | 1C Development of coastal cities (T) |
| 5A Returning veterans (L) | 2D Northeastern cities developed as
industrial centers (T) |
| 1A Cities developed before commercial
agriculture (L) | 5 Post World War II (T) |
| 4D Programs instituted by Pres. F.D.R. to
help the unemployed (T) | 4B 9,000 banks closed losing
\$2.5 billion (L) |

Look at the outline that Addie developed from the information that she gathered (Figure 12.5). Addie used an *informal outline* style in which she listed main points and then indented the secondary or supporting points.

Practice the Answers

Gathering, organizing, and outlining the information that you would use to answer a question doesn't guarantee that you'll be able to replicate the answer on the exam. You still need to practice the answer. It's not necessary to memorize your outline word for word. Practicing the main points and details in your outline should help you learn the answers to your predicted questions.

Practice Your Outline

Identify the main points in your outline and then learn them. The best way to learn the main points is to practice them over and over. Cover everything except the question with your hand or another sheet of paper. Ask yourself, "What are the main points that I want to make about this question?" Once you know the main points, practice the details in your outline. Each main point can then serve as a cue to help you recall the details. Practicing (reciting and writing) the information over a period of days will help you remember it during the exam. Finally, try to write your outline from memory.

FIGURE 12.5Addie's Informal
Outline

●	From beginning to about 1800s
	Cities developed before commercial agriculture
	Cities served as outposts of Western Europe
	Development of coastal cities
	1800 to 1860s
	Manifest Destiny
	Construction of canals and railroads
	NYC became national metropolis
	Northeastern cities as industrial centers
	1860s to World War I
	Industrialization continued after Civil War
	Cities grew and developed
●	World War I to World War II
	The Great Depression
	9,000 banks closed losing \$2.5 billion
	Urban decay
	Programs instituted by Pres. F.D.R. to help urban unemployed
	Post World War II
	Returning veterans
	Suburbs grew and flourished
	SMSAs became MSAs
	Urban population swelled

Use Mnemonics to Aid Recall

If you have difficulty recalling certain points or remembering them in order, try using a *mnemonic device* (a memory cue) to improve your recall. Identify a key word in each main point in your outline. Underline the key words and think of a way to remember them. Acrostics or catchphrases are especially useful for essay answers because they allow you to recall the information in order. Although these mnemonics don't replace learning the information, they do act as hooks or cues to help you recall what you learned. Lisa created the catchphrase, "Nancy sells every car for parts," to help her remember the six main points for her sociology answer (Figure 12.6).

Write Out Some Answers

Some students know how to answer an essay question; they know the information. However, when they actually are in the testing situation, they just can't seem to put

FIGURE 12.6

Lisa's Gathered Information and Outline with Mnemonic Cues

	Explain the view Thomas Hobbes took on the problem of order and the social contract.
1	social order is political natural law
2	state of nature
2A	people are selfish and violent
2C	people become power hungry
2B	central concept is power
3A	state of nature is condition of war
3B	common fear of power
3	equality among people
4	people form a social contract
4A	agreement b/w societies
4B	people give up natural liberty
4C	laws tell us how to act
5	if we break laws we are denied freedom
6	power of state is order
TS	Thomas Hobbes viewed order in society as a hunger for power among people.
1.	<u>Social order is political natural law</u>
2.	<u>State of nature</u>
A.	people are selfish & violent
B.	central concept is power
C.	people become power hungry
3.	<u>Equality among people</u>
A.	State of nature is condition of war
B.	Common fear of power
4.	<u>People form a social contract</u>
A.	agreement b/w societies
B.	people give up natural liberty
C.	laws tell us how to act
5.	<u>If we break laws, we are deprived of freedom</u>
6.	<u>Power of state is order</u>

that information on paper. Has this ever happened to you before? If so, the problem may be about writing rather than about studying. To complete your preparation, you need to practice writing out some of the answers in paragraph form.

Practice writing your answer by referring to your outline. Your goal is not to test your memory of the information but to practice stringing together your ideas. Turn each line from your outline (each meaningful phrase) into a sentence. Add additional sentences to provide more details, if you can. After you've successfully constructed an answer with the outline, try to write the answer again without it. On the evening before the exam, practice writing the answer one last time. By allowing yourself time



Ten Tips for Preparing for Essay Exams

□ Prepare all sample questions. If your professor gives you sample essay questions, prepare an essay plan for each one. Often the same, or very similar, questions are used on the exam. By preparing each of those answers, you will also cover most of the major topics on the exam. Don't forget to predict your own questions, too.

□ Review old exams. Review old exams to get some ideas about the types of questions your professor tends to ask. Don't rely just on those questions, though, because few professors use the same questions over again. Use them, instead, as models to develop your own questions.

□ Predict your own test questions. Go through your text and lecture material and write eight to ten essay questions that you think could be on the exam. The more questions you write, the greater the possibility that several of your questions will be on the exam.

□ Plan the answers to your questions. Dig through the text and lecture material to find the information that you need to answer the questions you predicted. Write the information on a sheet of paper or type it out on the computer and think about how you might use it to answer the question.

□ Develop an informal outline. Organize your gathered information in an informal outline so you can easily see the main points you want to make when writing out your essay answer. List the main points of your answer and several of

the details in your outline. Keep your outline simple, so that it's easy to recall.

□ Recite the main points of your answer. Practice reciting the main points you want to make for each answer you developed. While you're driving to school or work, check your memory of the information.

□ Use mnemonics to aid your retention. Developing catchwords and catchphrases can help you recall the main points in your outline. Remember, mnemonics don't replace learning the information; they just help you retrieve it from memory after you have learned it.

□ Set up a study group. Some students find that working in a group is quite effective when preparing for essay exams. Compare your questions with those of the members of your study group or predict questions as a group. Other members of the group may find connections in the material that you hadn't considered.

□ Write and compare essay answers. Ask each member of your study group to write out the answers to the several questions that were predicted by the group. Exchange and compare answers during a group meeting.

□ Get some feedback on your answers. If you really aren't sure about the quality of your essay answers, ask your professor to critique one or two of them. Your professor can give you valuable feedback on how well you're preparing for the exam and how well you're communicating what you know.

between your initial practice session and your final one, you can test your ability both to recall the information and to present it in a well-written, well-organized manner.

If you've predicted a large number of questions, you may not have time to write out all the answers ahead of time. If this happens, write out only those that you think you would have the greatest difficulty explaining. If a number of your

questions seem fairly straightforward, you can probably eliminate this stage. Just be sure you review aloud the key points that you would make, and think about how you might start the answers. Choose more complex questions for written practice. If you can present the information in the difficult questions in a well-written form, you probably can do equally well or better on the easier questions.

GENERAL TEST-TAKING STRATEGIES

Before you begin an essay exam, it's important to read and follow the directions. Then plan and organize your answer before you write it to be more successful.

Read the Directions Carefully

The first step in taking an essay exam is to read and follow the directions. Some students actually fail essay exams not because they don't know the information, but because they don't read and follow directions. Unfortunately, they just plunge into the exam without making sure they know how to proceed.

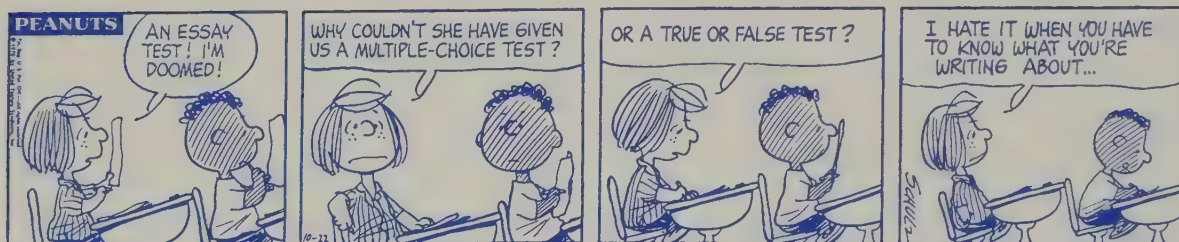
Find Out How Many Questions You Have to Answer

When you read the directions, check to see how many questions you're expected to answer. On many essay exams, you're given a choice of questions to answer. Consider the following set of directions: 1. *Answer two of the following questions.* (Six questions are given in total.) 2. *Answer two questions from set A and two questions from set B.* (Three questions are included in set A, and three questions are included in set B.) In each of these cases you're being limited to a certain number of questions and, in the latter case, to a certain number of questions from two different sets. If you tried to answer all six questions in the time that you were given to answer two, you couldn't spend enough time on any one answer. As a result, you may earn a lower grade than your preparation warranted.

How Much Should You Write?

Although essay answers are often only one paragraph long, they can range from a few sentences to ten pages long. The best guide for how much to write is how much space your professor provides on the examination paper. If there are three questions on one side of a page, a one-paragraph answer probably is expected. However, if you're not limited to just one side of the page, don't limit yourself to only the space that your professor has provided. Instead of trying to squeeze in or leave out additional information, continue your answer on the other side of the page. Use an arrow, write the word "over," or write "continued on back." If you write parts of several answers on the back, number them so that they'll be easily recognized. If there's only one question per page on your exam, then the professor probably expects you to fill the page in order to provide a satisfactory answer.

Many students are uncertain about how much to write when they're given only a sheet of questions and a blue book. If your professor has not stated a specific page limit for each question, you should consider the point value of the questions in order to determine how much to write. Obviously, a question worth 30 points will require a longer answer than one worth only 10 points. Occasionally, an essay exam has only one question. This question is essentially worth 100 points. If you still feel unsure of how much to write, ask your professor what he or she expects.



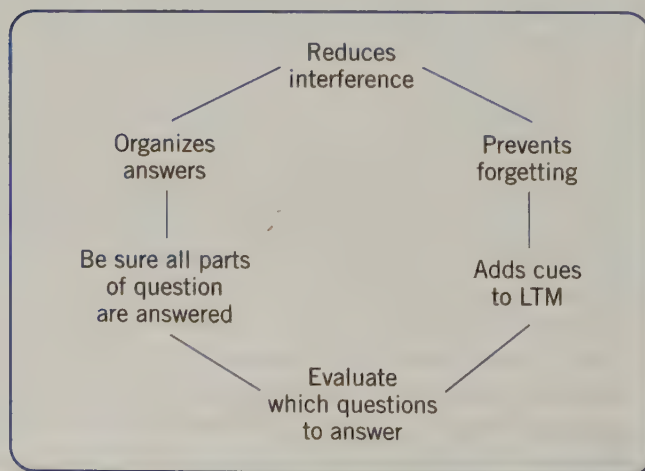
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Plan Before You Write

There are many advantages of planning before you write. If you take a few minutes to plan your answers before you write them, you'll find that you can write better essay answers in a shorter period of time. When you first look at the essay exam, you should read all of the questions before you decide which ones you want to answer. Circle the number of a question if you think you may want to answer it. Then jot down your ideas in the margin (Figure 12.7).

FIGURE 12.7

Plan Before Writing



Jot Down Ideas in the Margin

As you read each question, make notes in the margin as ideas for an answer pop into your mind. If you predicted one or more of the questions, jot down your mnemonic device, the key words, or the main points from the outline that you planned. You'll be able to make a better decision about which question or questions you should answer after you look at your notes.

Making notes as you read the questions can be very helpful. Sometimes it's hard to remember what you wanted to say about a particular question when you're ready to answer it. Reading the other questions and thinking about whether you should answer them can cause interference. Have you ever gone back to begin answering a question only to realize that you couldn't remember what you were going to say? If you think back to the analogy of your long-term memory as a filing cabinet, you may be able to understand better why this happens. Something in the first question triggers an association that opens a particular file drawer for you and makes the information on that subject accessible to you. As you read other questions, however, that drawer closes and others open. Sometimes, it's difficult to get the first drawer open again. The notes you jot in the margin help you get back to that file and also serve as additional cues to long-term memory. Each of the words you write down acts as an additional cue that can help you retrieve even more details for your answer. Finally, making notes in the margin helps relieve test anxiety. Once you know that you can answer the question, you can relax and feel more comfortable about taking the exam.

Be Sure Your Notes Reflect All Parts of the Question

After you have jotted your ideas in the margin and chosen to answer a question, reread the question to make sure that your notes reflect all parts of the question. If you find that you've planned for only a part of the question, make additional notes in the margin. Some essays require you to answer two or three questions within one question. In that case, number each part of the question (1, 2, 3, and so on); then write the numbers in pencil in the space under the question to make sure you don't forget to answer any parts. After you complete each part, erase that number.

Consider the following essay question from a chemistry test: *What differences, if any, exist between morphine and heroin in terms of chemical makeup, pharmacological effects, legal availability, and abuse?* Because there really are four parts to this question, you could write "1" above *chemical makeup*, "2" above *pharmacological effects*, and so on. If you find that you tend to forget to answer some parts of your essay questions, these strategies may help you improve your score on the next exam.

Organize Your Ideas Before Writing

After jotting down your ideas in the margin, you can organize your essay in just a few seconds. Simply number your ideas in the margin. Look at the ideas that you jotted down and ask yourself, "What's the first thing that I want to talk about?" After that,

you can decide what to put second, third, and so on. You also may decide that some of your ideas actually support some of the others. You can indicate that some of your ideas are supporting points by adding an “A” or a “B” after the number. You should be able to plan and organize an answer in just one or two minutes. For a longer essay, you can organize your ideas even more by writing a brief outline in the margin.

Write Your Answer

Getting started is often the hardest part of writing an essay answer. So, start with the easiest question first. Write your essay answer as you would write an essay for one of your English classes. State your first main point and then back it up with supporting details and examples. Then go on to your next main point.

Use a Basic One-Paragraph Design

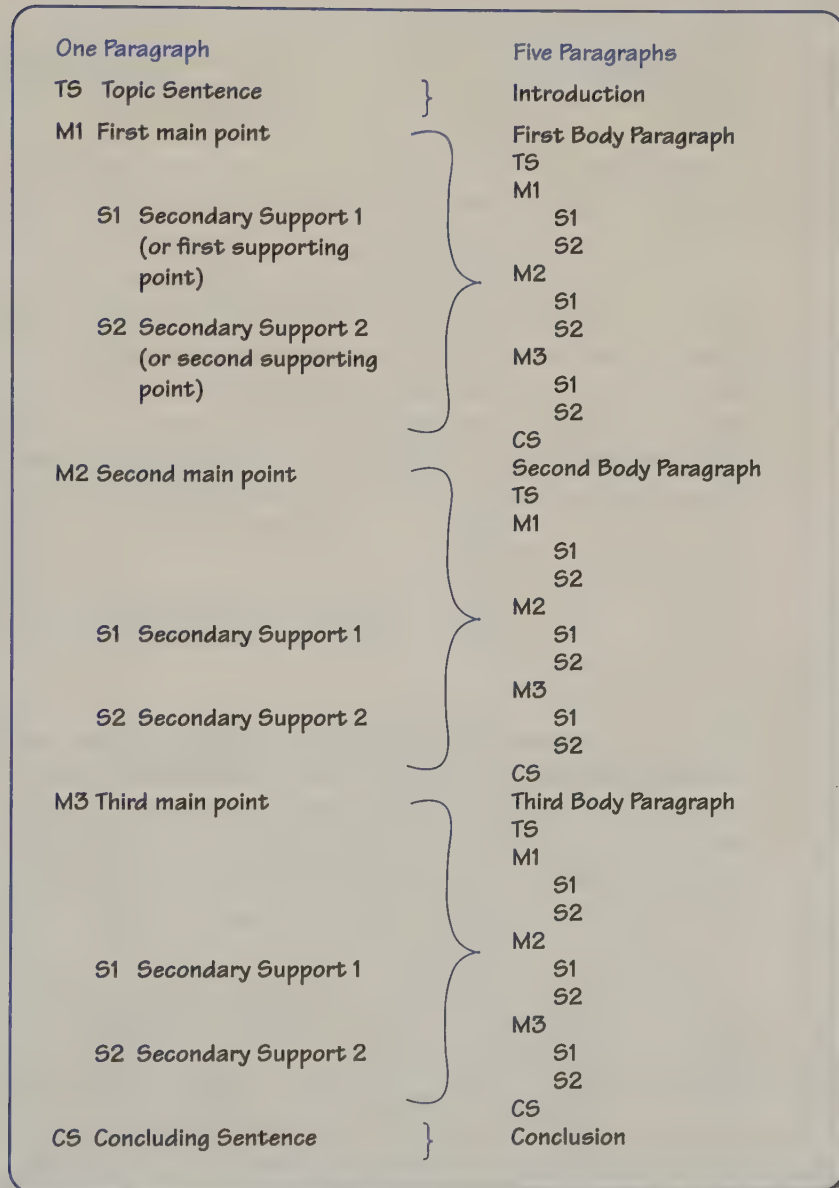
The general format for a one-paragraph essay is shown in the left-hand column of Figure 12.8. Begin your essay with a *topic sentence* (TS) that states the central idea of your paragraph. After the topic sentence, state your first main point (M1). After stating your first main point, back it up with one or more supporting sentences. Each of these sentences may include details, facts, or examples that further explain your main point. Next, state your second main point, followed by a sentence or two of support. Your third main point should be made next, followed by relevant support. Additional main points and secondary supporting information also can be included here. Finally, end your paragraph with a concluding sentence.

Modify the Design for Longer Essays

Not every essay can be answered in one paragraph. You may be expected to write several paragraphs or several pages in order to answer a question properly. In that case, instead of having a topic sentence followed by several main points, each paragraph in your essay would focus on one of those main points. A one-paragraph answer can easily be expanded to a four- or five-paragraph answer simply by developing each point more fully. The topic sentence would be expanded to an introductory paragraph containing a *thesis statement* that states the central idea of the entire essay, each main-point sentence would be expanded to form a supporting paragraph, and the concluding sentence would become a concluding paragraph (see the right-hand column of Figure 12.8). A long essay—five or more pages—would be developed in much the same way.

Turn the Question into a Statement

One strategy that may help you get started is to actually take the question, turn it into a statement, and add your answer to it. The resulting statement will become either your topic sentence (for a one-paragraph answer) or your thesis statement (for a longer essay answer). Consider the following question: *How did Greek architecture*

FIGURE 12.8Sample Essay
Design

and sculpture reflect the Greeks' concern for order, reason, and the ideal? What rules did they follow? This question can be rephrased to form the following topic sentence: *The Greeks valued architecture and sculpture and tried to make them reflect their concern for order, reason, and the ideal.*

By generating a topic sentence or thesis statement that includes your main points, you show your professor that you know the answer to the question. Turning the question into a topic sentence also helps you organize your own presentation of the material. In other words, you know where you're going with your answer.

Write Your First Main Point

The next step in writing your answer is to make your first main point. Take the idea that you labeled number 1 (or put first in your informal outline) and convert it into a sentence. Make it a general statement that can then be supported by details and examples.

Support Your Main Points

After you write your first main point, you need to add one or more sentences that contain supporting points, the specific information to back up your main point. Some essay answers may require only one or two sentences to support each main point. However, others (such as the history question mentioned earlier in the chapter) would require a full paragraph or more to defend each of the main points (each battle you selected). Next, add an example if you can. You may use an example that was presented in the text or lecture, or you could include an example of your own. By using examples, you demonstrate to your professor that you understand the abstract material. Continue with other main points and follow each of them with details and examples just as you did for the first one. Your job on an essay exam is to support each of your main points by including the information you learned in lecture or from your textbook.

Add Transitional Words

Add transitional words to indicate each of your main points and to help your reader move from one idea to the next. Words like *first*, *second*, *third*, *next*, and *finally* are *transition words* often used to introduce the main points in your essay. They let your reader know that you're making a main point. *Moreover*, *in addition*, *also*, and *furthermore* tell your reader that you are adding support to the points that you already made. To change direction or to say something that contradicts the previous statement, use a word or phrase like *however*, *but*, *on the other hand*, *nevertheless*, or *on the contrary*. Words like *consequently*, *therefore*, and *thus* indicate that you've reached a conclusion based on previous information.

You also can show connections by restating one or more of the key words in the question or topic sentence as you make additional points in your essay. If you're writing a long essay, it often is effective to restate parts of the question in each of your main points. You might say, for example: *The first main reason to answer the easiest question first is to maximize your points*. After explaining how that can be accomplished, you might restate the question for your second point as follows: *The second main reason for answering the easiest question first is to relieve test anxiety*. Each time you make a main point you can restate the question. Repeating key words and phrases helps organize your essay and reinforces the points that you want to make.

Add a Conclusion

Finally, you should end your essay answer with a *conclusion*, a concluding sentence or paragraph that reminds your professor of the main points you made. Professors form opinions of essays as they read, but they don't assign an actual grade until

they've read the entire answer. If you've made some of your best points early in your answer, the conclusion helps remind your professor of them just before he or she assigns a grade. Also, the concluding sentence or paragraph helps bring the answer to a logical ending, making the entire essay appear well thought out. Look at the sample essay in Figure 12.9. Which sentence is the topic sentence? Which sentences present the main points? Which sentences provide the secondary support? Which sentence presents the conclusion? Are transitions used? Which ones?

Proofread and Revise Your Answer

Your job isn't done when you write the last sentence of your essay answer. If you take just a few additional minutes to reread your answer, you may catch careless errors in sentence construction, grammar, or mechanics. In addition, as you read your answer from start to finish, you may think of an additional point to make or a better way to phrase something.

FACTORS THAT INFLUENCE YOUR GRADE

Many factors influence your grade on essay exams. Although the content of your answer carries the most weight, other factors—such as the organization of your answer, the format that you use, your writing ability, and how neatly you write your answer—also affect your grade. Some professors are as interested in how well you present the information as they are in the information itself. Knowing what your professor will be looking for in your answer can help you write better essay exams.

Content

The *content*—the information that you include in your answer—is of course the most important factor in determining your grade. When you're planning and writing your answer, include as much relevant information (main points and supporting details) as you can. It's important to explain key terms and back up the statements you make. Assuming that your professor will know what you mean, with little explanation, may result in a lower test score. One way to avoid being too general is to pretend that you're writing the essay for someone who doesn't know anything about the topic. Remember, your job on an essay exam is to show the professor how much you know about the question.

As tempting as it may be, avoid including irrelevant information. Some students try to impress their professors by including everything that they know about a topic even if it isn't relevant to the question. Some professors will simply overlook the irrelevant information or make a note that it's unnecessary or off the topic. Others, however, may penalize students because, to them, it seems the students really don't know the answer to the question that was asked.

FIGURE 12.9

Sample Essay

	<p>Question: How did Greek ^①architecture and ^②sculpture reflect the Greeks' concern for ^aorder, ^breason, and the ^cideal? What <u>rules</u> did they follow? (30 points)</p>
1 rules of	
proportion	Answer:
3 Parthenon	
2 human-ideal	The Greeks valued architecture and sculpture and tried to
4 perfect image	make them reflect their concern for order, reason, and the
5 virtual image	ideal. First, the Greeks followed very careful rules of proportion
	in creating their sculptures of gods and heroes. Every human
	figure was seven-and-one-half heads tall. The distances from
	the head to the chest, the chest to the groin, and the ankle to
	the foot all followed exact proportional measurements that
	had previously been determined. Also, the Greeks followed care-
	ful "rules" in the way they portrayed man and the gods in their
	sculpture. All works were idealized. They showed only the best
	human features. Second, the Greeks used the rules of propor-
	tion and measurement in creating their works of architecture.
	The Parthenon provides an excellent example of this order. The
	columns were spaced in proportion to the others in order to
	create a "perfect" image for the viewer. The number of columns
	across the side was equal to twice the number across the
	front plus one. This provided a sense of balance to the Greeks.
	Also, all of the columns leaned inward in order to maintain the
	illusion that they were exactly parallel and vertical. They were
	also thicker in the middle so that from the bottom of the hill,
	they appeared to be perfectly straight. Other similar "correc-
	tions" were made to the floor and the decorations in the frieze
	in order to maintain that "virtual image" that was so impor-
	tant to the Greeks. Both sculpture and architecture reflected
	the Greeks' concern for order, reason, and the ideal.

Organization

The *organization* (order) of your essay answer also is an important factor in the grade you receive. Take a few minutes to read the two sample essay answers in Figure 12.10. After reading Sample 1, assign it a grade of A, B, C, D, or F. Then read Sample 2 and assign a grade for it also.

How well an answer is organized can affect your grade on an essay exam. After the students in my classes evaluated the sample essay answers, I tallied the grades. The first sample almost always was assigned Cs, Ds, and Fs, whereas the second sample received As and Bs as the most common grades. When I asked them why the second answer was better, the most common response was that it had more information.

When you first read the two essays, Sample 2 probably seemed to contain much more information. However, if you look very closely, the two answers contain about the same information. The second essay appears to contain more information because it's so well organized. Some of my students thought the first essay deserved a lower grade (even though it did contain most of the relevant information) because it was poorly organized. Do you think so?

When professors grade essay exams, they expect to read a well-organized answer. If they are looking for particular points, they expect to be able to find them easily as they read the essay answer. Few professors will take the time to read an essay over and over again to find the information. Some professors penalize students intentionally for poorly organized answers. They feel justified in giving a poorly organized answer a lower grade because they think the student who wrote it didn't know the information as well as the student who wrote the more clearly organized answer. In other cases, though, students are unintentionally penalized because the essay answer is so jumbled that it becomes difficult to follow the argument, and the professor misses some of the information.

Format

The *format* of your answer may also affect your grade. The directions on an essay exam are sometimes rather vague. Most professors assume that students know how to write essays, and they don't go into detail about what form of answer they expect. In some classes, writing the correct information in list format would earn you an A. However, most professors expect you to write essay answers in paragraph form. Some professors expect you to write every other line, limit your answer to one side of a page, or use ink rather than pencil. Penalties for not formatting your answer correctly vary greatly from one professor to another.

Mechanics

Mechanics—sentence structure, grammar, punctuation, and spelling—are other factors that influence your grade. They probably are given more weight in English

FIGURE 12.10

Sample Essay Answers

Question: Compare and contrast short- and long-term memory.

Sample 1:

Short-term memory and long-term memory are much alike. They both allow you to remember information that you have read or heard. In short-term memory, we can only hold things for 15 to 30 seconds. Long-term memory is memory that has an unlimited capacity. You can get information into long-term memory by spacing study, using associations, using mnemonics, etc. Short-term memory is not permanent, and unless information is rehearsed, repeated, and meaningful it is lost. ROY G. BIV is an example of a mnemonic device for the color spectrum. Mnemonics like ROY G. BIV are devices that aid retrieval. We have limited capacity in our short-term memory. Its capacity is the magical number 7. A good example is a telephone number. Once we get information into our long-term memory it is permanent. To get it into long-term memory we must learn the information. We can expand our short-term memory by chunking. This is when we categorize information into one thing instead of leaving it separate. They are also both kinds of memory.

Grade _____

Sample 2:

Short- and long-term memory have some similarities and a number of differences. Short- and long-term memory are two types of memory. To get information into either short-term memory or long-term memory, you must encode it; you must make it meaningful. Short-term memory and long-term memory are also similar in that each is plagued by interference and forgetting. But short-term memory and long-term memory are different, too. Although it is easy to get information into short-term memory, you must rehearse and organize it in order to get it into long-term storage. The capacity of short-term memory is very limited. It can hold only seven plus or minus two bits of information at one time. If you try to hold onto more than five to nine things at a time, displacement of some of the earlier information will occur. However, we can increase the capacity of short-term memory by chunking the information. For example, it was easier to remember the list of letters after we put them into meaningful groups. Long-term memory, on the other hand, has an unlimited capacity. Long-term memory can hold billions of bits of information at one time. While information remains in long-term memory permanently, it can only be retained in short-term memory for about 15 to 30 seconds. Without rehearsal, the information is quickly forgotten. For example, if you look up a phone number and then get a busy signal after you dial it, you may have to look the number up again when you decide to try again. Although short- and long-term memory are similar in some ways, they are very different in both their capacity and durability.

Grade _____

courses, but professors from every discipline—engineering, biology, business, and so on—are influenced by these factors. Poor sentence construction and grammar can make it difficult to understand the information that you’re trying to relate. Even problems in punctuation and spelling affect how well your written answer matches what you want to say.

Your professors also may be influenced by such errors in less obvious ways. How well you’re able to write your answer—how free of errors in mechanics it is—says something about you as a student. Essay answers that include numerous errors in sentence construction, grammar, spelling, and punctuation can give your professor the impression that you’re not a very well-educated student. Unfortunately, this impression can “spill over” to the evaluation of the content of your answer as well. This shouldn’t happen, but it does. Some professors may find themselves thinking, “If this person can’t even write a complete sentence, how can he or she understand philosophy [or psychology, sociology, history, and so on]?”

Neatness

Neatness also may influence your grade. Most professors expect students to write clearly and neatly, observe margins, and present material in a “professional” manner. Very few of them are willing to spend hours attempting to decipher unreadable handwriting. If your professor can’t read your essay, you’ll lose points simply because he or she won’t be able to understand the points you’re trying to make. You also may lose points just because you make a bad impression by writing in an awkward and messy manner. Nicely written papers have been getting better grades than messy ones for years. Most professors seem to believe that good students care about their work and take the time to write in a careful and skillful manner, whereas poor students don’t.

STRATEGIES FOR GAINING MORE POINTS

Even if you’re well prepared, you may find that during the exam you have difficulty getting what you know down on paper. Occasionally, students draw a complete blank on an essay question, think of an important point after they’ve completed their answer, run out of time, or even run out of space. The following tips may be helpful if you find yourself in one of these situations.

Use the Exam as a Resource

Many college exams are a combination of objective and essay questions. Don’t overlook the objective questions; they can be a valuable source of information. By referring to the multiple-choice, true/false, and matching questions, you may find a great

deal of specific information that you can use in your essay. Don't be afraid to look back at them for names, dates, terms, or even key ideas. Professors often include in the objective part of the exam information that relates to the essay questions; in fact, details may even be found in the incorrect choices for the multiple-choice items. Even if the actual information isn't available, reading some of the questions and possible alternatives may help you recall some of the information that you need. Words or phrases in the questions may act as cues for your long-term memory.

Always Write Something

There are times when even well-prepared students are surprised by an essay question and draw a complete blank. Before you give up and resign yourself to accepting a failing grade, try to think through the question. Look for key words in the question that might give you a clue to the answer. Think about the main topics of the lectures and the text chapters that were covered. Try to recall the maps you made, the study sheets you prepared, and the questions you predicted. Sometimes you actually can recall the answer after you do a memory search. However, if you still have no idea, you should write something. Some professors give students a few points for just trying. In addition, you may find that you know more than you thought and be right on target. Sometimes in the process of writing "anything" to fill the space, you trigger something in your memory and the actual answer will pop into your head. This has happened to a number of students who used this technique, and it can happen to you.

Leave Extra Space

When you're answering a question on the exam paper itself, it's important to leave reasonable margins on all sides of the answer. First of all, this makes your answer look better. Also, it allows you to add information after you've completed your answer. If you must add further information at the end of your essay, place an asterisk (*) or number next to it and also in the paragraph at the spot where the information belongs. You may earn more points if the additional material is read within the context of the answer rather than at the end. You also benefit from leaving wide margins because your professor has space to provide you with feedback about your answer. If no space is available, professors tend to include comments only at the end or not at all. If you're using a blue book for your answers, leave at least three lines between each answer. Again, you'll have room to add another point if you think of something after completing the question.

What If You Run Out of Time?

You occasionally may run out of time during an essay exam, no matter how carefully you budget it. The first thing you should do is ask your professor whether you



Ten Tips for Taking Essay Exams

- You can succeed on essay exams.** Some students are intimidated by essay exams—perhaps because they haven’t had to write an essay recently. It’s true that you have to know the answer, but if you’ve predicted questions and practiced the answers, you should be well prepared. By practicing writing your own essay answers, you’ve already taken your own self-test.
- Ask about confusing directions.** One of the most common mistakes that students make when taking essay exams is not following directions. Make sure you find out how many questions you need to answer, the format requirements, and any limitations on length. If you’re confused about any of the directions, ask your professor for clarification.
- Budget your time.** It’s critical to budget your time on essay exams. Keep track of the time and pace yourself throughout the exam so that you don’t spend too much time on one or two questions. Be sure to consider the point value of each question.
- Answer the easiest questions first.** As you preview the exam, look for questions that you predicted. Since you’ve already planned how to answer those questions, you should find them easy to do. Completing one or two easy questions will help build up your confidence and help you maximize your score if time runs out.
- Plan in the margin.** Make notes in the margin before writing your answer. Then go back and reread the question to be sure that your notes reflect all parts of the question. You’ll also find this reduces your anxiety because you’ve demonstrated that you already know the answer.
- Quickly organize your answer.** Add numbers to the notes that you made in the margin to organize them before you write. Don’t take the time to write another outline; a quick plan will do fine. Check off each point as you use it in your essay. Remember, you won’t get points for the information unless you actually use it in the essay.
- Include all relevant information.** Some students leave out important information because they think it’s obvious. Pretend that you’re writing the answer for a friend or family member who knows very little about the topic. Go into enough detail to explain each point you make.
- Be strategic when answering difficult questions.** Put the question in your own words and do a memory search. Think about how some of the information that you learned when you prepared your predicted questions could be used to answer the exam questions. Just start writing—sometimes you can cue your memory of the material as you write.
- Proofread your answer.** Take a few minutes to reread each of your answers before you turn in your exam. Some students are so nervous at the beginning of an exam that they make careless errors and leave out words, make spelling or grammar errors, or even forget some of the information that they learned.
- Learn from your mistakes.** After the exam is over, monitor your preparation. Go back and find out where the questions came from. Evaluate how well your predicted questions compared with those on the exam. Rewrite one or two of your answers and ask your professor to look them over and give you more feedback on their quality.

can have additional time to complete the test. Some professors will allow you to continue working until the next class begins. Others may even allow you to come to the office to complete your test. If, however, your professor says that you must finish in the time allotted, you can still pick up most of the points on an essay answer. Let's say you've started writing your last essay answer out in paragraph form. Suddenly the professor announces that you have only five minutes left to complete the test. Instead of only writing down a few more sentences, list the remaining points that you wanted to make. Add a little note that says something like, "I'm sorry that I didn't have time to finish my essay. These are the additional points that I wanted to make." Some professors will give you full credit for your answer, assuming it's a good one, even though you didn't write all of it out. This is a better strategy than just writing until time runs out and answering only half of the question.

LEARNING FROM EXAMS

You may think that once the exam is over, you should simply move on and concentrate on the next unit of work. You probably think that if you just try harder the next time, you'll be able to do a better job. Unfortunately, some students just don't know how to write an "A" answer for some of their classes. They may do very well on the exams in one class, but for some reason that they can't explain, they just aren't able to get the grades they want in another class. Looking carefully and analytically at your returned exams can provide you with information on how to improve your answers on future exams.

What Can You Learn?

One of the most important things you'll learn from your returned exam is how closely your answer matched what the professor wanted. If you got a good grade on the exam, you probably are doing a good job of presenting the information. If, on the other hand, your grade was lower than you expected, you need to find out where you went wrong. It's important to understand why you got the grade you did. Evaluate your answer on the basis of the factors that influence grades (described earlier in this chapter) and discuss it with your professor. Of course, the key to improving your score on future exams is to find out what you need to do differently.

How to Evaluate Your Answer

There are several good ways to evaluate the quality of your essay answer. One method is to compare your answer with those of your peers. Reading another

student's essay can teach you a lot about what the professor expects. Find a student in your class who got an A on the exam. Explain that you were disappointed in your grade and want to get a better idea of what you should do differently. Ask the student to explain how he or she answered the question and ask whether you may read his or her essay. Then read your answer again. What differences did you find? How did the content of your answer compare to your classmate's answer?

Once you get a better idea of what your professor expected, set up an appointment to discuss your exam. Don't go into the meeting with the expectation of getting extra points. Instead, focus on finding out how you should have answered the question in order to gain the maximum number of points. In this way, you and the professor are on the same side; you're working toward the same goal. Often, when you "fight" for additional points, you and the professor may find yourselves acting as opponents or adversaries. If that type of atmosphere is generated, you may gain a point or two on the exam, but you'll probably lose the opportunity to learn how to write a better answer.

You should also request assistance from someone in your college learning center. The learning center staff can help you evaluate and improve your essay answers. Also, the learning center may offer tutorial services in the course content area and writing assistance that will help you learn to correct sentence construction, grammar, and mechanics errors.

Rewrite Your Answers for Comparison

An excellent strategy for learning to write better essay answers is to rewrite your answers to the exam questions after it's returned. Use your text and your notes to put together the best answer that you can. Take time to organize the information and check your sentence structure, mechanics, and spelling. Then go back to your professor and ask him or her to read your new answer. Ask what your grade would have been if you had written that answer for the exam. You need to find out whether you understand what your professor expects for an "A" answer. If you still don't succeed in meeting your professor's expectations, you now have another opportunity to discuss why your answer was not a good one.










SUMMARY

Essay exams are often more difficult than objective exams because they require recall-level learning. You have to know the material well enough to write one paragraph, several paragraphs, or even several pages to answer the question. To be properly prepared for essay exams, you need to predict broad, challenging questions, plan the answers, and learn the information.

If you're well prepared, essay exams can be even easier than objective exams. Some students lose points on essay exams not because they don't know the material, but because they don't know how to take essay exams. Read the directions first to determine how many questions you need to answer, and check point values. As you read each question, jot down any ideas that pop into your mind. Organize your ideas and then turn the question into a statement to begin your answer. Follow that with your main points and supporting details. Take a few minutes to add a conclusion and then proofread your answer.


Although many students believe that the content of the answer is the only factor professors use to determine their grade, it's actually only one of the factors that influence that decision. Be sure to review your exam when it's returned to find out how well your preparation and your style of writing essay answers match your professor's expectations.


ACTIVITIES

-  1. How do you feel about taking essay exams? Do you dread them? Do you prefer them to objective exams? Think about the last few essay exams you took. How did you prepare? What strategies did you use during the exam? Were you pleased with the grade you earned? Would you like to walk into your next essay exam feeling well prepared? Would you like to earn higher grades on your essay exams? Why? What's your motivation?
-  2. Predict three essay questions for an exam that you have coming up in the next few weeks. Write each question on a separate sheet of paper and then plan all three answers by gathering information, outlining, and creating mnemonics for the main points.
-  3. Write out the answers to at least two of the questions you predicted and planned for your exam. Set up an appointment with your professor to discuss the questions you predicted and the answers you planned and wrote out. What did you learn?
-  4. Work as a group to develop a list of predicted essay questions for the material in Chapter 11 of this text. Use the chart of frequently used terms (see Figure 12.2) to help you develop a variety of broad general questions. Work with the other members of your group to develop an essay plan and an outline.
-   5. Write the answer from the outline that you developed in Activity 4. Exchange copies of the essay answer with the other members of your group. After reading each of the other answers, think about how your answer compares to them. What were the strengths and/or weaknesses of your answer? What changes would you make?
-   6. From the Web site, download one copy of Activity 12-4 from the Activities Packet. Jot down your ideas in the margin as you read the questions. Then work with a group to organize the ideas by creating an informal outline.
-  7. Practice turning your ideas into sentences by converting your first numbered response to each question in Activity 6 into a sentence. Then compare each of your main-point sentences with those of others in your group. How similar were your responses? Finally, write one or two supporting sentences for each of the main-point sentences. Be sure that each of the sentences includes details, examples, or reasons to support each of the main points you made.


8. Take a few minutes and answer the following essay question: *Compare and contrast a catchword and a catchphrase*. Then read each of the essay answers available on the Web site and evaluate them using the criteria discussed in this chapter. Evaluate each answer and assign a grade from 1 to 10 points (no grade is used more than once). Jot down a few notes to justify your decision. Which are the three best essays, in order? Which are the three worst essays, in order? Be prepared to defend your choices with your group.
9. Evaluate the answer that you wrote comparing and contrasting catchwords and catchphrases. What criteria did you use as the basis for ranking your answer? What were the strengths of your answer? The weaknesses? Compare your answer to the ones listed in Activity 8. What changes do you plan to make in the way you write essay answers?
10. Now that you've completed Chapter 12, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW

 **Terms You Should Know:** Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.

 **Completion:** Fill in the blank to complete each of the following statements. Then check your answers on the Web site.

1. One way to prepare for an essay exam is to predict _____ or _____ times the number of questions you will have to answer on the exam.
2. After you create an outline for your answer, you must _____ the information to learn it.
3. Creating an informal outline in the margin can help you _____ your essay answer before you begin to write.
4. Jotting ideas in the margin can actually help you _____ which questions to answer.
5. A good essay answer includes both _____ and _____ points.

 **Multiple Choice:** Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. Which of the following is not a good source for predicted essay questions?
 - A. Main headings in the textbook
 - B. Main topics from your lecture notes
 - C. Recall questions in the margin of your text and notes
 - D. Old exams

7. A good _____ tells your professor that you know the answer to the question.
- A. outline
 - B. paragraph
 - C. thesis statement
 - D. transition

Short Answer/Essay: On a separate sheet, answer each of the following questions:

- 8. What are the benefits of predicting your own essay questions?
- 9. How should students prepare for an exam that contains both objective and essay questions?
- 10. Why do some students have difficulty taking essay exams? What should they do differently?



Tutorial Quiz: Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

Succeeding on Finals

What Are
Final Exams?

How to
Succeed on
Final Exams

**SUCCEEDING
ON
FINALS**

How to Prepare
for Comprehensive
Finals

How to Set
Up a Final
Exam Plan

"Preparing for finals would have been so much harder had I not planned and spaced out my studying. I also set up a specific time to start studying and I stuck to it. I'm not even worried about finals because of this. When my friends are running around cramming for finals, I just have to check my calendar to see exactly what I have scheduled to do. It's so easy."

Brian Shomo, Student

TERMS YOU SHOULD KNOW

Make a flash card for each term and/or use the flash cards on the Web site to learn the definitions.

Comprehensive final
Consolidate
Final Exam Planning Calendar

Final exams
New material
Old material

Reminder sheet
Setting priorities
Splitting your day

Where Are You Now?

Take a few minutes to answer *yes* or *no* to the following questions.

	YES	NO
1. Do you work ahead before finals to free up study time?	_____	_____
2. Do you tend to give up at the end of the semester and spend little or no time preparing for finals?	_____	_____
3. Do you usually score lower on final exams than on the other exams?	_____	_____
4. Do you set up a plan to prepare for your finals?	_____	_____
5. Do you put most of your effort into the course in which you have the lowest grade?	_____	_____
6. Do you generally spend a lot of time partying at the end of the semester when you know you should be studying?	_____	_____
7. Do you calculate the grade you need on each of your finals?	_____	_____
8. Do you use the Five-Day Study Plan to prepare for each of your finals?	_____	_____
9. Do you put so much effort into one exam that you don't have the time or energy to prepare for one or more of the others?	_____	_____
10. Do you realistically consider your chances of success before preparing for final exams?	_____	_____

TOTAL POINTS _____

Give yourself 1 point for each *yes* answer to questions 1, 4, 7, 8, and 10, and 1 point for each *no* answer to questions 2, 3, 5, 6, and 9. Total up your points. A low score (0–4) indicates that you need to develop some new skills for preparing for final exams. A score of 5 to 7 indicates that you are using some good strategies but not others. A high score (8–10) indicates that you already are using many good strategies. What did you learn about yourself by completing this activity?

WHAT ARE FINAL EXAMS?

Final exams are end-of-semester tests that help professors evaluate your progress. They are used by some professors to monitor your mastery of the concepts and ideas presented in the course. Other professors use them to make decisions about grades, to determine whether students should move on to the next class, or even to monitor their own teaching. Although final exams may be one of many routine exams given during the semester, they often are longer, both in number of questions and in time allotted for the test, and more difficult. Comprehensive final exams may survey all of the material covered in the course. Final exams range in value from about 20 percent of your grade all the way up to 100 percent. In some courses they count as much as two regular exams; in others, they are the only exam and determine your entire grade.

Many courses include only a midterm and a final, with each one determining half of the course grade. However, sometimes the final carries more weight in determining your grade because it's the second exam. If you score higher on the final, you'll probably receive a higher grade in the course, and vice versa. Although finals are more challenging than most regular exams, you can still use many of the same strategies that you used for your other exams to prepare for them. However, if you have four or five final exams in a one-week period, you need to begin your preparation even earlier—perhaps several weeks before your first exam.

HOW TO SUCCEED ON FINAL EXAMS

Many students change their patterns of sleeping, eating, studying, socializing, working, and so on, before final exams. For example, they may limit their time with friends, cut out television, and spend more time in the library in order to fit more study time into each day. They believe that their performance on finals is critical to their ultimate success in one or more of their courses. By managing your time efficiently, making academics your top priority, setting priorities for study, staying motivated, and using other good strategies (see Figure 13.1), you can improve your grades on your final exams as well as your overall GPA.

Manage Your Time Efficiently

You can make the end of the semester much less stressful by using time-management techniques to reduce the overload that many students experience. Two or three weeks before your first final, sit down and make out an End-of-Semester Assignment Calendar. Write down all of the assignments, papers, projects, and exams that you

FIGURE 13.1

General Strategies
for Succeeding on
Finals

- Manage your time efficiently.
- Make academics your top priority.
- Set priorities for exams.
- Attend all classes.
- Reduce anxiety.
- Use active study strategies.
- Stay motivated.
- Work hard during each exam.
- Monitor your progress.

still need to complete. Then make a list of all of your outstanding assignments and realistically estimate the amount of time that you think you'll need to complete them.

Pick several assignments to complete early. Even if they aren't due for two weeks, finish them as soon as possible to reduce the amount of work that you'll have to complete right before exams begin. You need to be able to begin concentrating on your finals at least five days before the first one is scheduled. That means you need to complete most of your regular work about a week before it's due. Doing some of your reading early, completing a term paper, or working ahead in several classes can help create the extra time that you'll need.

Go back and take another look at the Fixed Commitment Calendar you created at the beginning of the semester (see Chapter 3). You may need to make some changes to your calendar. The best way to find more time for study is to create more available study time. Can you reduce your work hours? Your social time? Your extracurricular activities?

Make Academics Your Top Priority

Many students get tired at the end of the semester. College is hard work, and it takes its toll on many students. One big mistake that some students make, though, is to decide to rest up before finals week. They slack off and even fall behind in their work just when they need to be pushing harder to get ahead. Although they may feel better for a day or two after this hiatus from work, most of them realize too late that it was a mistake. Suddenly they have only a few days to complete all of the assignments that have piled up and to prepare for their finals. They feel overwhelmed and stressed out. Even though they push hard at the end, they just don't have enough hours in the day to do all of their work, so something suffers. Often they give up on one or more assignments or on one of their courses, and their grades drop.

Rather than easing off at the end of the semester, you need to push hard. If you work as hard as you can for one week about two weeks before your first final, you'll be able to complete many of the assignments on your list and still have a few days to rest up before you begin to study for your final exams. During that week, plan daily tasks. Some students still like to use "To Do" lists; others get really serious and use hourly calendars to schedule their assignments. In either event, schedule regular study hours and set daily study goals.

The two weeks before finals tend to be a rather slow period for end-of-semester projects, so it's a good time to get ahead in your work. Look at your assignment calendar and locate a "light" week near the end of the semester. It may be three weeks before finals for you. Whichever week is the lightest week for you, that's when you should get a head start on your outstanding assignments.

Set Priorities for Exams

You can increase your chances for academic success by *setting priorities*—deciding which finals are more important. Reevaluate your goals for each of your classes. Look closely at where you stand in each course. You may be able to figure out exactly what your grade is by averaging all your scores on exams, homework, and papers. If you can't determine your grade on your own, set up an appointment with your course professor to go over your grade. You need to know what your grades are before you can determine how much time and effort you need to put into each of your final exams.

Calculate Your Course Grade

In many classes, your grade is based on a variety of factors such as attendance and participation (A/P), homework assignments (H), quizzes (Q), exams (E), and papers or projects (P). In some classes, each factor is worth a specific percentage of the course grade. How can you determine your class grade when it's that complex? Perhaps the following formula will help. Find your average (percentage grade) for each factor, multiply it by the percentage of the total grade for each factor, and add them to determine your current average.

$$\begin{aligned} &A/P \times (\% \text{ of grade}) + H \times (\% \text{ of grade}) + Q \times (\% \text{ of grade}) + \\ &E \times (\% \text{ of grade}) + P \times (\% \text{ of grade}) = \text{Grade} \end{aligned}$$

Consider the following example. Let's assume that you currently have 100 percent of the attendance/participation points, which are worth 10 percent of your grade; 100 percent of the homework points, which are also worth 10 percent of your grade; 80 percent on the quizzes, which are worth 20 percent of your grade, and so on.

A/P		H		Q		E		P		G
100 × (10%)	+	100 (10%)	+	80 (20%)	+	85 (50%)	+	90 (10%)	=	
10		10		16		42.5		9		= 87.5*

To calculate the grade you need on your final, you need to determine how the final will impact on your grade. Use the following formula:

$$(\%CG \times CG) + (\%FE \times SFE) = FG$$

(Percentage of Current Grade times Current Grade) plus (Percentage the Final Exam is worth times Score on Final Exam) equals Final Grade.

If your final counts the same as the other exams, and all four of them together count as 50 percent of your grade, the final exam is worth 12.5 percent of your total grade. On the other hand, your final may be worth 25 percent or more of the course grade in some classes. Look at another example:

Participation		Homework		Quizzes		Midterm		Final
100 × (10%)	+	90 × (10%)	+	85 (20%)	+	85 (25%)	+	SFE (35%)
10		9		17		21.25		? =

Your current grade is 57.25/65 (the percentage of grade you earned before the final) divided by 65 (the percentage of points available before the final), which equals 88 percent. The grade you need on the final can be determined by plugging in the percentage of the total grade times your current grade plus the percentage of the final and the grade you think you need to earn on the final. For example:

$$(0.65 \times 88) + (0.35 \times \text{_____}) = FG$$

To calculate what you need on the final, plug various scores into the blank until you find the grade you'll need on the final exam to earn the course grade you're hoping to achieve. In the previous example, you would need a 94 percent on the final exam to earn an A in the course if 90 to 100 is an A in the course: $(0.65 \times 88) + (0.35 \times 94) = 90$. To find that score, I tried a 90, 91, 92, and 93 looking for the lowest possible score on the final exam that would earn the A.

Do a Practice Exercise

Some course grades are calculated based only on exam grades. Consider the following example. Imagine that you have the following test grades in your classes and the final exam in each class has the same weight as the other exams. For which final exam or exams should you work the hardest—put in the most time? Make a decision before you continue reading.

*If grades between 80 to 89 are assigned a B grade, 87.5 would be a high B.

Exams deserving the most preparation time: _____, _____.

Class A	82	84	83
Class B	81	76	79
Class C	74	84	85
Class D	14	40	56

Most students think they should put the greatest amount of time and effort into the final for class D. For the second most important final exam, some students select class A; others choose between B and C. The majority of students, however, select A and D as the finals they would put ahead of the others. Why? They realize that they are failing class D. To pass the class, they need to get a good grade on the final.

Unfortunately, some college students actually let all of their other exams go (spend very little, if any, time on them) in order to ace the final in their worst class and save their grade. In most cases, however, students who have failed all previous exams in a course are unlikely to score high enough on the final exam to improve their grade. In this exercise, what grade would you have to get in order to pass class D? Because each exam carries the same weight, it's easy to figure this out. Add up the points that you already have ($14 + 40 + 56$). After the first three exams, you have accumulated 110 points in class D. To score a passing grade (with 60 as passing), you would need a total of 240 points (4 times 60). So what would you need to get on the final to achieve your goal of 240 points? If you said 130 points, you were right. As you can see, not only is it impossible to score 130 points, it also is highly unlikely that any student with scores of 14, 40, and 56 would even score 100 on the final exam.

Consider All Your Options

By evaluating your grade in each of your classes, you can determine whether or not you can pass the class. It might be better to drop (withdraw from) a class you are failing and concentrate on your other courses. Check with your professor before you drop a class, though. Some professors do take improvement into consideration and may drop the first (or lowest) exam when calculating your grade. If only the second, third, and final exams were counted, there could be hope of passing class D. Ask your professor whether there is any chance that you can pass the class. If the answer is no, then drop the course or just forget about it. Don't study for the exam; don't even take it unless you're planning to retake the course. If that's your plan, just getting an idea of what the final exam is like will help you prepare even better the next time around. Instead, put your time and energy into your other classes. It's a mistake to believe that you should never give up on a course.

Setting Priorities Can Improve Your GPA

You actually can improve your GPA by setting your priorities appropriately. Put your greatest effort into the courses in which you have a borderline grade, in courses

where the final actually can make a difference. Many students think that they should put their greatest effort into class A because it's the class with the highest grade (an 83 average). Although class A is the course in which you have the highest grade, the grade is a pretty solid B. What grade would you have to get on the final in order to get an A (90 average) in this class? Look at the following calculation:

360	what you need for an A (if all four exams are given equal weight)
-249	the total points you now have in Class A
111	total points that you need

As you can see, here again it's impossible to gain enough points on the final to significantly affect the grade; an A cannot be achieved, even with a perfect score. The two classes where you should put your effort are the middle two classes (B and C). In each of these courses, you have a borderline grade (78.6 in class B and 81 in class C). Because your grade is close to the cutoff for a B (assuming an 80 is a B), the results of your final exam will determine your grade. If you want to get a B in class B, you need to score only an 84 (320 minus 236) on the final. With previous grades of 81, 76, and 79, an 84 seems to be a realistic goal requiring only a little extra effort. To keep the low B that you already have in class C, you need to get only a 77 (320 minus 243). Putting in the extra effort in class C certainly could pay off.

Determine the grade you need in each course by adding up all the scores that you have so far and subtracting that total from the total points that you need. If you want an A in a course that has only three exams, you need 270 points, assuming a 90 is an A ($3 \times 90 = 270$). In a course with five exams, you need 460 points, assuming a 92 is an A ($5 \times 92 = 460$). The total points that you need can be calculated by multiplying the total number of exams by the lowest numerical value for the grade that you want to earn. If your grade is composed of homework, quizzes, papers, and other assignments, in addition to exam grades, use the earlier formula or ask your professor how to calculate your grade and how to determine what you need on the final.

Stay Motivated

Motivation is the key to succeeding on finals, so you need to find ways to recharge it at the end of the term. If you've been working hard all semester, don't stop now. If you've cruised too much, increasing your motivation can make a difference in your grades. Setting priorities for study can really help you increase your motivation. When you know exactly what you need to do to achieve each of your grade goals, you'll be more motivated to put in the time, make the effort, and use the right strategies to succeed.

As you prepare for each final, you need to find ways to stay motivated. If you get tired or discouraged, give yourself a pep talk. Plan rewards that will help you stay on task. Surround yourself with other motivated people. Join a study group, or check in with friends who also have made a commitment to work hard during

finals week. One of the worst things you can do is hang around with other students who don't have very many exams or who don't plan to study. They will constantly distract you and may, without meaning to, tempt you to neglect your studies. Even though it's hard to say no to your friends, you have to. Remember that your academic goals must come first. If you have a heavy exam schedule, save the partying for when you're finished. Many students don't realize that partying every night after they study can be very harmful. Don't drink during finals preparation; hangovers can throw off your study schedule, interfere with your concentration and retrieval during exams, and affect whether you get to the exam on time.

Attend All Classes

You can improve your performance on final exams by attending class. Missing class is never a good idea, but missing class just before finals is extremely unwise. Many professors squeeze extra information into their lectures during the last week or two of classes in order to present all of the material that will be on the final. Others review or discuss what will be on the final, as well as what won't be on the final. Knowing what to study and also knowing what you don't have to spend time on can help you use your study time more effectively. In addition, you may benefit from questions that other students ask during class and the answers that your professor gives.

Use Active Study Strategies

To prepare for finals which cover only new chapters, use the strategies that you've already found to be successful on other exams. For comprehensive finals, use the materials that you already prepared for your regular exams to study for your finals. If you already took good notes on your textbook and prepared study sheets combining the information from your text and lecture notes, you won't need to go back and review the text again. If you prepared questions in the margin or word and question cards for each of your chapters, take them out again to review for your final. Rather than rereading your notes, study sheets, or maps, create new ones. This time use your notes and study sheets as your starting points. In the process of making new study sheets, you'll effectively review the material. If you made self-tests for each chapter, use them again to find out what you already know and what you still need to work on.

Reduce Anxiety

Don't let the thought of final exams make you panic. Many students experience test anxiety during final exams. Why do you think this happens?

- Final exams, especially comprehensive finals, are a new experience for many students.

- Some students see final exams as their last chance to pull up their grade.
- Finals are more important than most exams because they can determine your grade in the course.
- Some students experience more anxiety during finals because they are tired and “run down” at the end of the semester.

Anxiety is a normal part of finals week. Although you can't eliminate all feelings of anxiety, you can do things to keep test anxiety from interfering with your performance on exams. If final exams are new to you, talk to your professor, advisor, or someone in your college learning center about what to expect. Ask some of your friends to describe their experiences with final exams and how they compared with regular exams. The more you know about the exams, the more prepared you'll be for them. If one of your finals will determine your grade in the course, be sure to make that exam your top priority. The strategies for test preparation that you learned will help you be well prepared for the exam, and being well prepared is the best way to reduce anxiety. Finally, get lots of rest, eat well, and plan some time to relax during finals week so that you don't feel stressed out. If you used some stress-reduction exercises to help lower your anxiety on previous exams, use them again as soon as you feel anxious. Although anxiety may be an obstacle during final exams, you have many resources to help you overcome it.

Work Hard During Each Exam

Work hard during each of your exams. Stay in the testing room for the entire time period. Review your answers and use problem-solving strategies to try to figure out the correct answer for any question that you're not sure about. Concentrate on only one exam at a time. Don't think about the exam that you had yesterday or the one that's coming up tomorrow. If you feel anxious, use one of the relaxation strategies that you learned. Focus all your energy and all your effort on the exam. After the exam, take a break before beginning your next study session. Don't allow your performance on one exam to interfere with your ability or commitment to prepare for another one. If you leave an exam angry or upset about your performance, accept the fact that you may not achieve your goal in that class, but don't give up on all of your other classes. You may be able to do even better than you expected on one of your other exams.

HOW TO SET UP A FINAL EXAM PLAN

Although cramming for finals is a common phenomenon, it's not the best way to prepare for finals. Cramming is especially ineffective when you have more than one exam on the same day. Few students have a finals schedule that includes only one exam per day; usually, students have at least two exams on the same day. In most cases, then, cramming is not a useful strategy for preparing for exams. What



More Tips for Succeeding on Finals

- ❑ **Put academics first this week.** Put family activities, cleaning, and social events on hold until after your last exam. You'll have several weeks between semesters to catch up on things once your exams are over. Focus your attention on your final exams.
- ❑ **Use stress-management strategies.** Many students panic at the end of the semester. You may have so much to do in such a short time that you aren't sure you can get it all done. You may be worried about comprehensive finals or your grades. If you let it, stress can interfere with your ability to prepare for and take your final exams.
- ❑ **Make a "To Do" list.** About ten days before your first final, make a list of all your outstanding assignments. Then push hard for one week to complete as many of the tasks ahead of time as you can. This will free up time at the end of the semester to devote to preparing for your final exams.
- ❑ **Set priorities for study.** You don't need to study for every final exam the same way. If the final is unlikely to change your grade in the course, spend less time preparing for that exam. Put more effort, instead, into those exams where the final will determine your grade. You still need to study for all your exams, but use your time to your best advantage.
- ❑ **Use the Five-Day Study Plan.** Most students have as many as five exams spaced within a three- or four-day period. Some students have two exams on the same day. Although it's tempting to study for one exam at a time by cramming, you already know that's not the most effective way to learn. Split your day to use the Five-Day Study Plan for each of your exams.
- ❑ **Ask for time off if you need it.** You may need to take a vacation day from work or even from household tasks in order to prepare for one or two of your most important final exams. Think about how hard you worked to get to this point. With a little extra time to prepare, you can make all that hard work pay off.
- ❑ **Stay healthy to do your best.** Some students skip meals and pull one all-nighter after another to cram for finals. This strategy often results in poor test preparation and performance. You need to eat properly, get enough sleep, and get some exercise during final exam week so that you can do your best on each exam.
- ❑ **Plan rewards.** Make a list of things you want to do when finals are over. Ask your family and friends what they'd like to do, too. Setting goals for special activities or even some rest and relaxation can help keep you motivated through your exams.

alternatives are there? By spacing your study over several days, you can study for each of your exams using the Five-Day Study Plan and, at the same time, maintain your motivation throughout exam week.

Make a Final Exam Study Plan

One of the first things you need to do is set up a plan for your exams. Check your syllabi or final exam schedule several weeks in advance and write each exam time on a calendar. Occasionally, students find that they have more than one exam

scheduled for the same time. If this happens, check with your professors about alternative exam times. More often, students find that they have more than one exam on the same day. It's relatively common to have two exams on one day, but some students find that they have three exams (or more) on one day. Having too many exams on the same day can negatively affect your performance during finals. By the time you begin the third exam, you may be exhausted, frazzled, or emotionally drained. To put it another way, you won't be at your best. Some schools have policies that help eliminate these conflicts; the faculty and administration recognize that students can't properly demonstrate what they've learned if the testing situation works against them. Check with your professor, academic dean, or someone in the registrar's office if you have exam conflicts.

Make out a *reminder sheet* (on 8½-by-11-inch paper) for each exam that you have to take. Write the name of the course, day and date, time, place, and any materials that you need to take with you. Post the sheets on your door or bulletin board. Some students get so stressed out during finals week that they forget when or where their exams are scheduled. Having all the information for each of your exams clearly organized and posted may help reduce anxiety. If your final exams are scheduled for times and places that are different from your regular class hours, these reminder sheets will be especially helpful.

Don't Start to Prepare Too Early

When you start to study can affect your performance on final exams. Some students decide to get a jump on finals by preparing several weeks in advance. This strategy has both positive and negative effects. On the positive side, you can review a lot more material a lot more often if you start early. On the negative side, though, you can forget a lot of material before the exam if you begin to prepare too early. If you do begin your preparation more than a week before the exam, you need to review the material that you prepared first when you're closer to the exam. One way to make good use of early preparation time is by creating study sheets, maps, self-tests, word cards, and so on. Begin your actual review of these materials four to five days before the exam.

Set Up a Final Exam Planning Calendar

By setting up a *Final Exam Planning Calendar*, you can properly prepare for each exam without feeling rushed or anxious. Use the Five-Day Study Plan to space out your study. By splitting your day, you can prepare for several exams at the same time.

Split Your Day When Preparing for Several Exams

Rather than studying for one exam at a time, you need to learn how to prepare for several exams at the same time. This isn't an impossible task, as some students

think, but rather one that requires a high level of motivation, a little planning, and a lot of perseverance. Count back five or six days from each of your final exams to determine your starting date. You may find that you're on Day 3 of your Five-Day Study Plan for Biology when you start Day 1 of your Five-Day Study Plan for English Literature.

By splitting your day, you can effectively prepare for several exams at the same time. If you have your other work done, you should be able to devote all of your time to preparing for exams. This doesn't mean that you'll study nonstop from the time you wake up until the time you go to sleep. Rather, *splitting your day* means that you should be able to schedule three or four two-hour blocks of time each day to prepare for your exams. How would you prepare if you had the finals schedule shown in Figure 13.2? By using the Five-Day Study Plan, you can prepare for all of your exams at one time. Your hardest and busiest days on this schedule are Sunday, Monday, and Wednesday. By carefully planning your time,

FIGURE 13.2

Final Exam Study Plan

Algebra	Monday	December 14	9:00 to 11:00
English	Wednesday	December 16	9:00 to 11:00
Biology	Thursday	December 17	12:30 to 2:30
Learning Strategies	Friday	December 18	12:30 to 2:30

Final Exam Study Plan

Wed Dec. 9	Thurs Dec. 10	Fri Dec. 11	Sat Dec. 12	Sun Dec. 13	Mon Dec. 14	Tues Dec. 15	Wed Dec. 16	Thurs Dec. 17	Fri Dec. 18
Day 1 Algebra	Day 2 Algebra	Day 3 Algebra	Day 4 Algebra	Day 5 Algebra	Extra Review Algebra				
		Day 1 English	Day 2 English	Day 3 English	Day 4 English	Day 5 English	Extra Review English		
			Day 1 Biology	Day 2 Biology	Day 3 Biology	Day 4 Biology	Day 5 Biology	Extra Review Biology	
				Day 1 LS	Day 2 LS	Day 3 LS	Day 4 LS	Day 5 LS	Extra Review LS
					Take Alg Final	No Exam	Take Engl Final	Take Bio Final	Take LS Final

you can prepare for each exam and still have sufficient time for sleep, meals, and some relaxation.

If I were helping you plan a study schedule, I would recommend that you divide your day according to the courses on which you're working. Assigning one course to the morning, two to the afternoon, and one to the evening allows you to study for each exam in a regular time slot. By studying the same material at the same time of day, you can separate course material for one exam from that of your other courses and thereby prevent some of the interference that often occurs during finals week. It's also a good idea to work on your hardest subject early in the day, when you're the most alert. By the time you spend four or more hours on your other two classes, you won't be able to concentrate as well on the material from the third class.

Create a Final Exam Planning Calendar

If the Final Exam Planning Calendar shown in Figure 13.3 were your exam schedule, I would suggest that you set up your study time this way. Because you have finals early in the final exam period, begin to prepare for them during the last week of regular classes. You may still be busy completing reading assignments or even papers or projects that are due at the end of the semester. If you need to prepare for more than one exam during this week, try to complete your regular assignments early. By Sunday of exam week, schedule time to prepare for four final exams. Even in this schedule you have some flexibility.

You could eliminate one of the afternoon study blocks and move it to the 10:00 to 12:00 block, or you could use the optional study time for extra review for your highest-priority class or classes. Because Biology is a very difficult class, I would schedule that study time first. Notice, incidentally, how each study block is followed by at least a one-hour break. You need time to rest and allow the information to *consolidate* (get organized in long-term memory) or "sink in" before you start to study again.

The time block from 10:00 P.M. to 12:00 A.M. is designated optional study time on this calendar. You can use it a number of ways. If Biology is your top-priority class, you could spend an extra two hours each day preparing for your exam. You could spend the early afternoon preparing and reviewing material and the late-night block for more review and self-testing. If you have two high-priority classes, use the first hour for extra review for one of them, take a ten- or fifteen-minute break, and spend the last forty-five minutes on the other class. You could also use the optional study time block for a fifth exam. Do you prefer to stay up late studying rather than get up early? Print an extra copy of the calendar (available on the Web site) and add more time blocks at the bottom so you can schedule some of your study blocks from 1:00 A.M. to 3:00 A.M., if that fits your time schedule. Other students may need to add time early in the morning.

FIGURE 13.3 James' Final Exam Planning Calendar

	⑨ Wednesday	⑩ Thursday	⑪ Friday	⑫ Saturday	⑬ Sunday	⑭ Monday	⑮ Tuesday	⑯ Wednesday	⑰ Thursday	⑱ Friday	⑲ Saturday
7:00 A.M.											
8:00 A.M.						Extra Review Alg		Extra Review English			
9:00 A.M.	English		English		Day 5	Algebra		English	Extra Review	Extra Review	
10:00 A.M.					Alg	Final		Final	Bio	Learning Strategies	
11:00 A.M.	Biology		Biology						Lunch	Lunch	
12:00 P.M.	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch			
1:00 P.M.	College Algebra		College Algebra	Day 1	Day 2	Day 3	Day 4	Day 5	Bio Final	Learning Strategies	
2:00 P.M.		Learning Strategies		Bio	Bio	Bio	Bio	Bio		Final	
3:00 P.M.				break	break	break	break	break			
4:00 P.M.			Day 1	Day 2	Day 3	Day 4	Day 5				
5:00 P.M.	Dinner	Dinner	English	English	English	English	English				
6:00 P.M.			Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	
7:00 P.M.	Day 1	Day 2	Day 3	Day 4	Day 1	Day 2	Day 3	Day 4	Day 5		
8:00 P.M.	Alg	Alg	Alg	Alg	Learning Strategies	Learning Strategies	Learning Strategies	Learning Strategies	Learning Strategies		
9:00 P.M.			break	break	break	break	break	break	break		
10:00 P.M.			Optional	Optional	Optional	Optional	Optional	Optional	Optional		
11:00 P.M.			Study time	Study time	Study time	Study time	Study time	Study time	Study time		

Note: Do not use the words *Optional Study Time* on your plan. Instead, indicate how you will use that time.

Color Code Your Calendar. On the calendar in Figure 13.3, all of the study blocks are outlined in blue. However, when you create your own planning calendar, select a different color for each of your exams. You could outline the exam and all of the study blocks related to Biology with a red marker. Then use blue for College Algebra, green for English, and perhaps orange for Learning Strategies. Color coding helps you organize your plan and see clearly what you're studying and when.

Plan an Extra Review. Although the Biology exam isn't scheduled until 12:30 p.m. on Thursday, Day 5, the final review for Biology on this study plan is scheduled for Wednesday. Because the exam is scheduled for an afternoon time slot, you may think that you should do your final review that morning. However, that's not the best time to take your self-test. If you don't know the material that morning, you won't have enough time left to learn it. Instead, do your self-test on Day 5, the day before the exam. Then you'll have time to work on any information you miss and do an extra review the day of the exam. On the day of your exam, doing an extra review (two-hour review, or one-hour review if your schedule is really tight) just before the exam is a good way to keep the information fresh in your memory.

Set Up a Plan for Multiple Finals. Did you notice as you looked at the planning calendar in Figure 13.3 that James had only one exam per day during the final exam period? Many students aren't that fortunate—most have two exams on one day, and a few (especially if they are taking day classes and night classes) have three on the same day. If you have more than one exam on the same day, you can still use the Final Exam Planning Calendar to schedule your study time. Hollie set up five study blocks to prepare for her exams (see Figure 13.4). Even though she had both her Educational Psychology and her Math for Elementary Teachers exams on Wednesday, it really didn't change her strategy of scheduling her study time. Because she only had a half hour in between her two afternoon finals, Hollie didn't have time for an extra review before her Math exam. If Math had been a higher priority than Ed. Psych., she could have used the time before the Ed. Psych. exam to review more for her Math exam.

HOW TO PREPARE FOR COMPREHENSIVE FINALS

Check to see whether you have a *comprehensive final*—a final that includes previously tested material. Some professors include both old and new material on final exams. Knowing how much of the exam is based on old material is critical to effective preparation. If you have a comprehensive final, find out how much of the exam is comprehensive. Many professors give final exams that are partially comprehensive. If, for example, you had an exam that covered twelve chapters (and

FIGURE 13.4 Hollie's Final Exam Planning Calendar

	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
7:00 A.M.											
8:00 A.M.									Extra Review LS		
9:00 A.M.	Math	Ed Psych	Math	Day 2	Day 3	Day 4	Day 5	Extra Rev	Learning Strategies	Extra Review	
10:00 A.M.	Learning Strategies	Psych	Learning Strategies	Ed Psych	Ed Psych	Ed Psych	Ed Psych	Ed Psych	Final	Science	
11:00 A.M.	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch	
12:00 P.M.				Day 1	Day 2	Day 3	Day 4	↑ Ed Psych Final	Day 5	↓ Sci Final	
1:00 P.M.	Comp		Comp	Sci	Sci	Sci	Sci	↓	Sci	Sci Final	
2:00 P.M.	Science		Science								
3:00 P.M.			Day 1	Day 2	Day 3	Day 4	Day 5	Math			
4:00 P.M.			Math	Math	Math	Math	Math	Final			
5:00 P.M.	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	Dinner	
6:00 P.M.			Day 1	Day 1	Day 2	Day 3	Day 4	Day 5			
7:00 P.M.			Ed Psych	LS	LS	LS	LS	LS			
8:00 P.M.											
9:00 P.M.			Extra Rev	Extra Rev	Extra Rev	Extra Rev	Extra Rev				
10:00 P.M.			Ed Psych	Ed Psych	Ed Psych	Ed Psych	Ed Psych				
11:00 P.M.											

Note: Hollie did not have a final in English Composition.

accompanying lecture notes and so on), you would prepare differently depending on whether the exam was 100 percent comprehensive, 75 percent comprehensive, 50 percent comprehensive, or 25 percent comprehensive.

Preparing for 25 Percent Comprehensive Finals

Let's say you have an exam that is only 25 percent comprehensive. That means that 75 percent of the test questions cover *new* (not yet tested) *material*, and 25 percent of the test questions cover *old* (already tested) *material*. If the exam is composed of 100 multiple-choice items that cover twelve chapters, how many of the questions will be on old material? Of course, 25 of them will be. That means that 75 questions will be on the new material, which, for this example, will be Chapters 10, 11, and 12.

If you were going to set up a Five-Day Study Plan for this final, which chapters would you study on each of the first four days, assuming that you save the last day for a final review and self-test? Many students make the mistake of dividing the material into four equal chunks (as they did for regular exams). In the case of a comprehensive final, however, this would be very poor planning. Because 75 percent of the questions will come from the new material, 75 percent of your time should be spent on those chapters.

It may seem strange to spend only 25 percent of your study time on the first nine chapters of the text (and accompanying lecture notes, and so on); however, that is the appropriate time to devote to the old material. Look at the three study plans in Figure 13.5. In the first plan, the student divided up the study time equally. In the second study plan, the student divided the study time equally but reversed the order of the review. She thought that by beginning with the new material, she would get to spend five days reviewing it. Even so, the total time spent on the old material is still disproportionate to the number of questions on the test. In the third study plan, the proportion of time spent on each section of the material is more appropriately divided to reflect the weight (number of test questions and point value) of each section. The correct way to divide the time would be to spend Day 1 preparing Chapters 1–9, Day 2 on Chapter 10, Day 3 on Chapter 11, and Day 4 on Chapter 12. Because each of

FIGURE 13.5

Sample Study Plans

Plan 1		Plan 2		Plan 3	
Day 1	CH 1–3	Day 1	CH 10–12	Day 1	CH 1–9
Day 2	CH 4–6	Day 2	CH 7–9	Day 2	CH 10
Day 3	CH 7–9	Day 3	CH 4–6	Day 3	CH 11
Day 4	CH 10–12	Day 4	CH 1–3	Day 4	CH 12

the four chunks of material (1–9, 10, 11, and 12) is weighted the same on the exam, they should be given equal preparation time.

The number of questions taken from each chapter often signals how detailed or specific each question will be. Typically, the fewer the questions from each chapter, the more general they tend to be. If you have only twenty-five questions covering nine chapters of text, you have less than three questions per chapter on the exam. On the other hand, if you have seventy-five test questions based on the last three chapters, you have approximately twenty-five questions for each chapter. Although the student who spends three days preparing and reviewing the first nine chapters may know that material very well, he or she will not know the last three chapters well enough (with only one day of preparation) to get a high score on the exam. A quick review of the old material followed by intense study of the new material is necessary for exams that are only slightly comprehensive.

How can you review nine (or more) chapters of material in only a two- or three-hour study session? You can't. You don't have time to reread all your highlighting or even all your lecture notes (and rereading is not a good way to review anyway). If you prepared properly for each of the exams that covered those chapters, you should have study sheets, word cards, questions in the margin, and self-tests from which to study. The best way to prepare for those chapters, then, is to use those two hours to self-test with the material that you already prepared for the earlier exams. That way you can find out what you still need to work on. In addition, if you have copies of your old tests or are permitted to review them in your professor's office, do so. Many professors use questions from the original exams again on the final.

Preparing for Other Comprehensive Finals

Now that you know how to divide your time correctly between old and new material for 25 percent comprehensive finals, let's look at other combinations. Let's say that you're going to have a 50 percent comprehensive final. One-half of the test questions will be based on Chapters 1–14 and the other half will come from the last four chapters in the text (15–18). How would you divide your study time, assuming you have the same four days to prepare and one day for a final review of the material? To figure out the proper ratio of time to chapters, think about how many chapters will be covered in each quarter of the exam. Because half of the test questions will come from the first fourteen chapters, you can effectively divide those chapters in two. You would prepare Chapters 1–7 on Day 1 and Chapters 8–14 on Day 2. You would then prepare Chapters 15 and 16 on Day 3 and Chapters 17 and 18 on Day 4. Deciding which chunk of chapters to review first depends on your past performance. If you got high grades on the exams on Chapters 1 to 14, you may want to work on the new chapters first, to get more repetition on that material. If you didn't do well on the old exams, you should start with those chapters because they're less fresh in your mind and will require even more review. Remember to review each chunk of material on each day of your study plan.

An exam that's 75 percent comprehensive requires more time on old material than on new material. Let's use the following example. If you had 100 questions that covered nineteen chapters of text, how much time would you spend on the old material if only Chapters 16–19 were still untested? In this case, you would spend the first three days of your study plan reviewing the first fifteen chapters (because 75 percent of the questions will come from those chapters) and only the last day on the new material (because only 25 percent of the questions will be drawn from those chapters). Even though you have not yet been tested on the last three chapters, you shouldn't spend a disproportionate amount of your time on them because so few questions will be taken from each one. However, if you did really well on the exams for the old chapters, you should review Chapters 16 to 19 first. That way you'll have more time to learn the new, not-yet-tested material during each daily review. By spacing your study and allocating the appropriate amount of time to each chapter, you can maximize your test score on any type of comprehensive final exam.

SUMMARY











To succeed on final exams, you need high motivation, good time management, effective strategies, and perseverance. Most students are still attending classes, preparing daily assignments, and completing term papers and projects as final exam period approaches. Because final exams are often critical in determining your final course grade, you need enough time to prepare for each one as carefully as or more carefully than you did for your regular exams. To do this, you may need to make some changes in your daily routine. About two weeks before your first final, you need to make academics your top priority. You should push hard—make extra effort—about two weeks before the end of the semester and get ahead in your work. Your goal is to complete most of your outstanding assignments five days before your first exam. At the same time, you need to evaluate your status in each course. By calculating your current grade, you can determine which final exam(s) will make a difference in your overall course grade.

Use overlapping Five-Day Study Plans to prepare for each exam. Set up a Final Exam Planning Calendar. With most of your regular assignments already completed, you should have plenty of time to schedule three to four (two-hour) study blocks each day. Spacing your study and splitting your day will help you stay on task, reduce anxiety, and prevent interference as you prepare for several exams at the same time.


Developing strategies to stay motivated is also especially important during final exam week. As you take each of your finals, put forth your best effort. Concentrate on each exam, monitor your progress to evaluate the strategies you used, and then make any necessary adjustments for the next exam.


Comprehensive final exams are more difficult than other tests because they cover so much material. However, if you divide your study time properly and use the material that you prepared from each of your old exams, you can do as well or even better on the finals. If you learn from your successes and your mistakes, the experience you gain will help you cope with the intensity and the stress of final exams—each semester, you'll do it even better!

ACTIVITIES


- 
 1. Work as a group to list ten strategies that students should use when preparing for final exams. How many of the strategies do you already use? Which ones do you plan to use for your final exams this semester?
- 
 2. Complete the End-of-Semester Assignment Calendar available on the Web site, listing all the assignments, projects, and exams you need to complete before the end of the semester. Do you have enough time to complete all your work? Do you have any additional time left for relaxation and personal goals? Do you need to make any changes in your time plan to prepare for your final exams? If so, what changes do you plan to make?
- 
 3. List your home and work responsibilities for the ten days before your first final exam. What tasks can you postpone until your finals are over? Mark them and decide when you will complete each of them. What tasks can you omit entirely? Develop a plan to manage your time more effectively for the two-week period before your final exams.
- 
 4. Take a few minutes and jot down your grade goals in the margin. What scores do you need to earn on each of your finals to achieve those goals? How motivated are you now? Do you need to increase your motivation to achieve your goals? What strategies do you plan to use to stay motivated or get more motivated during the last few weeks of the term? Compare your responses with those of the others in your group.
- 
 5. From the Web site, download one copy of Activity 13-3 from the Activities Packet. List your grades in each class and your total points earned. Then set priorities for your final exams.
- 
 6. Print out Tanya's and Joel's Final Exam Planning Calendars, available on the Web site. Although both students attempted to develop a good study plan for their final exams, they made some common mistakes. What are the strengths and weaknesses of each plan? What changes would you make if they asked you to set up a study schedule for them?
- 
 7. From the Web site, download one copy of the Final Exam Planning Calendar. Write in all your fixed commitments, classes, and exams. Then set up Five-Day Study Plans for each of your exams.
- 
 8. Plan some ways to stay motivated. List some of the obstacles that you'll have to overcome during finals week, the strategies or resources that you plan to use to overcome them, and the rewards that you anticipate. Compare your responses with those of the others in your group.
- 
 9. List the scores that you received in each class and total your points earned. What score do you need to get on the final to earn the next-highest letter grade? Use the formula $(\%CG \times CG) + (\%FE \times SFE) = FG$.
- 
 10. Now that you've completed Chapter 13, take a few minutes to repeat the "Where Are You Now?" activity, which is also located on the *Orientation to College Learning* Web site. What changes did you make as a result of reading this chapter? How are you planning to apply what you've learned in this chapter?

CHAPTER REVIEW

 **Terms You Should Know:** Take the matching test on the *Orientation to College Learning* Web site (www.cengagebrain.com) for practice.

 **Completion:** Fill in the blank to complete each of the following statements. Then check your answers on the Web site.


1. You can prepare for several final exams at the same time by _____ your day.
2. You should generally review the _____ material early in your study plan so that you can get more repetition on it.
3. When setting up your Final Exam Planning Calendar, plan _____ hour(s) for each exam each day.
4. Courses with _____ grades should be your highest priority.
5. A 25 percent comprehensive final includes _____ questions out of one hundred on the old material.

 **Multiple Choice:** Circle the letter of the best answer for each of the following questions. Be sure to underline key words and eliminate wrong answers. Then check your answers on the Web site.

6. If you're failing a course, you should
 - A. rank that course as your top priority.
 - B. drop the course.
 - C. check with the professor to ask if there is any chance you could pass.
 - D. stop attending, don't study, and don't take the final.
7. On the Final Exam Planning Calendar, optional study time can be used for
 - A. additional practice for all of your exams.
 - B. additional practice for your top-priority exam.
 - C. preparation time for a fifth course.
 - D. all of the above.

Short Answer/Essay: On a separate sheet, answer each of the following questions:

8. Why do students experience so much anxiety at the end of the semester?
9. Why do some students have difficulty taking final exams? What should they do differently?
10. How should students prepare for 25 percent, 50 percent, 75 percent, and 100 percent comprehensive finals?

 **Tutorial Quiz:** Take the tutorial quiz located on the *Orientation to College Learning* Web site for additional practice.

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ACTIVE LEARNING STRATEGIES FOR VISUAL, AUDITORY, AND KINESTHETIC LEARNERS

Visual	Auditory	Kinesthetic
<ul style="list-style-type: none"> ■ Read and highlight your text. ■ Visualize pictures, charts, and diagrams. ■ Take modified-block notes. ■ Outline information. ■ Map information. ■ Create charts. ■ Read related material. ■ Edit your lecture notes. ■ Color code your notes and study sheets. ■ Write out steps in a process for solving math and science problems. ■ Create study sheets. ■ Write word and question cards. ■ Write self-test questions. ■ Write questions in the margin and underline the answers. ■ Create visual images to connect information to acronyms and acrostics. ■ Use the method of loci to recall information. ■ Take online tests. 	<ul style="list-style-type: none"> ■ Read difficult passages out loud. ■ Recite the main points at the end of every headed section of the text. ■ Explain information out loud. ■ Discuss the text assignment or lecture material with a study partner or study group. ■ Tape the lectures from your most difficult class and play them again when you commute or do household chores. ■ Cover the details in your lecture notes and recite from the headings. ■ Recite out loud the answers to questions appearing in the margin or on word and question cards. ■ Teach the material to someone or something else. ■ Create a taped self-test and recite the answers before listening to the correct ones. ■ Explain the steps for solving math and science problems. ■ Create rhymes, poems, and songs to recall information. 	<ul style="list-style-type: none"> ■ Take notes as you read your text assignments. ■ Predict questions in the margin at the end of each headed section. ■ Create word, question, and problem cards and practice them in groups of 10 or 15. ■ Make up puzzles or games (like Jeopardy or the Match game) to learn text and lecture material. ■ Practice labeling diagrams, recreating maps, and filling in charts to learn information for exams. ■ Construct diagrams, models, and problem cards to practice math and science material. ■ Make up self-tests in the same format as the actual test and take them. ■ Participate in study groups and review sessions. ■ Work problems. ■ Take end-of-chapter and online tests to prepare for exams. ■ Develop acronyms and acrostics to recall information and practice using them. ■ Take online tests.

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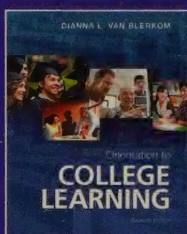
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